McGill University Libraries
3 100 785 294 A



ANNUAL CALENDAR

OF

McGILL COLLEGE

AND

UNIVERSITY,

MONTREAL.

FOUNDED UNDER REQUEST OF THE HON. JAMES McGILL,
ERECTED INTO A UNIVERSITY BY ROYAL CHARTER
IN 1821; AND RE-ORGANIZED BY AN
AMENDED CHARTER IN 1852.

SESSION 1885-86.

Montreal:
PRINTED FOR THE UNIVERSITY BY JOHN LOVELL & SON.

1885.

LE3
M2
1885-86
34380

The *University Lists* of Graduates, Students, &c., and announcement of the School Examinations, will be found in the complete Calendar, which can be had on application to the Secretary.

The *Examination Papers* of the Session 1884-85 are published seperately, and may be purchased of the Secretary, or through booksellers.

BENEFACTORS OF

McGill University, Montreal.

I. ORIGINAL ENDOWMENT, 1811.

THE HONOURABLE JAMES McGILL, who was born at Glasgow, 6th Oct., 1744, and died at Montreal, 19th Dec., 1813, by his last will and testament, under date 8th January, 1811, devised the Estate of Burnside, situated near the City of Montreal, and containing forty-seven acres of land, with the Manor House and Buildings thereon erected, and also bequeathed the sum of ten thousand pounds in money, unto the "Royal Institution for the Advancement of Learning," a Corporation constituted in virtue of an Act of Parliament passed in the Forty-first Year of the Reign of His Majesty, King George the Third, to erect and establish a University or College for the purpose of Education and the advancement of learning in the Province of Lower Canada, with a competent number of Professors and Teachers to render such Establishment effectual and beneficial for the purposes intended; requiring that one of the Colleges to be comprised in the said University, should be named and perpetually be known and distinguished by the appellation of "McGill College."

The value of the above-mentioned property was estimated at the date of the bequest at.....$120,000

II. UNIVERSITY BUILDINGS.

THE WILLIAM MOLSON HALL, being the west wing of the McGill College buildings, with the Museum Rooms, and the Chemical Laboratory and Class Rooms was erected in 1861, through the munificent donation of the founder, whose name it bears.

THE PETER REDPATH MUSEUM, the gift of the donor whose name it bears, was announced by him as a donation to the University in 1880, and was formally opened to the public, August, 1882.

III. THE DONALDA ENDOWMENT FOR THE HIGHER EDUCATION OF WOMEN.

This endowment, given by the Honorable Donald A. Smith of Montreal, is for the education of women in the subjects of the Faculty of Arts up to the standard of the examination for B. A, in classes wholly separate, to constitute a separate Special Course or College for women,—$120,000.

IV. ENDOWED CHAIRS.

THE MOLSON CHAIR OF ENGLISH LANGUAGE AND LITERATURE, in 1856, by the Honorable John Molson, Thomas Molson, Esq., and William Molson, Esq., —$20,000.

THE PETER REDPATH CHAIR OF NATURAL PHILOSOPHY, in 1871, by Peter Redpath, Esq.,—$20,000.

THE LOGAN CHAIR OF GEOLOGY, in 1871, by Sir W. E. Logan, LL.D., F.R.S, and Hart Logan, Esq.,—$20,000.

THE JOHN FROTHINGHAM CHAIR OF MENTAL AND MORAL PHILOSOPHY, in 1873, by Miss Louisa Frothingham,—$20,000.

THE WILLIAM SCOTT CHAIR OF CIVIL ENGINEERING, in 1884, endowed by th last will of the late Miss Barbara Scott, of Montreal,—$30,000.

THE MAJOR HIRAM MILLS CHAIR OF CLASSICS, in 1882, endowed by the last will of the late Major Hiram Mills of Montreal,—$42,000.

THE DAVID J GREENSHIELDS CHAIR OF CHEMISTRY AND MINERALOGY, in the Faculties of Arts and Applied Science, in 1883. endowed by the last will of the late David J. Greenshields, Esq., of Montreal,—$40,000.

THE GALE CHAIR, in the Faculty of Law, endowed by the late Mrs. Andrew Stuart (née Agnes Logan Gale), of Montreal, in memory of her father, the late Honorable Mr. Justice Gale,—$25,000; part received, May, 1884.

V. EXHIBITIONS AND SCHOLARSHIPS IN ARTS.

THE JANE REDPATH EXHIBITION, $100 annually—founded in 1868 by Mrs. Redpath of Terrace Bank, Montreal, and endowed with the sum of $1,667.

THE MCDONALD SCHOLARSHIPS AND EXHIBITIONS, 10 in number—founded in 1871 and endowed with the sum of $25,000, in 1882, by William C. McDonald, Esq.—Annual value, $1250.

THE CHARLES ALEXANDER SCHOLARSHIP, for Classics—founded in 1871, by Charles Alexander, Esq.—Annual value, $120.

THE TAYLOR SCHOLARSHIP—founded in 1871, by T. M. Taylor, Esq.—Annual value, $100—terminated in 1878.

THE SCOTT EXHIBITION—founded by the Caledonian Society of Montreal in commemoration of the Centenary of Sir Walter Scott, and endowed in 1872 with the sum of $1,100 subscribed by members of the Society, and other citizens of Montreal. The Exhibition is given annually in the Faculty of Applied Science.

THE BARBARA SCOTT SCHOLARSHIP FOR CLASSICAL LANGUAGES AND LITERATURE.—founded by the last will of the late Miss Barbara Scott of Montreal, in the sum of $2,000 :—in 1884.

THE DAVID MORRICE SCHOLARSHIP—in the subject of Institutes of Medicine, in the Faculty of Medicine—founded in 1881—value $100.

THE GEORGE HAGUE EXHIBITION—founded in 1881 in the Faculty of Arts, for the term of four years, value $125.

THE BURLAND SCHOLARSHIP—founded 1879, by J. H. BURLAND, ESQ. $100 for a Scholarship in Applied Science, for three years, being $300.

THE MAJOR HIRAM MILLS MEDAL AND SCHOLARSHIP—founded by the will of the late Major Hiram Mills of Montreal, and endowed with the sum of $1,500.

VI. ENDOWMENTS OF MEDALS AND PRIZES.

In 1856 Henry Chapman, Esq., founded a gold medal, to be named the "Henry Chapman Gold Medal," to be given annually in the graduating class in Arts. This Medal was endowed by Mr. Chapman in 1874, with the sum of $700.

In 1860 the sum of £200, presented to the College by H. R. H. the Prince of Wales, was applied to the foundation of a Gold Medal, to be called the "Prince of Wales Gold Medal," which is given in the graduating class for Honour Studies in Mental and Moral Philosophy.

In 1864 the "Anne Molson Gold Medal" was founded and endowed by Mrs. John Molson of Belmont Hall, Montreal, for an Honour Course in Mathematics and Physical Science.

In the same year the "Shakespeare Gold Medal," for an Honour Course to comprise and include the works of Shakespeare and the Literature of England from his time to the time of Addison, both inclusive, and such other accessory subjects as the Corporation may from time to time appoint—was founded and endowed by citizens of Montreal, on occasion of the three hundredth anniversary of the birth of Shakespeare.

In the same year the "Logan Gold Medal," for an Honour Course in Geology and Natural Science, was founded and endowed by Sir William Logan, LL.D., F.R.S., F.G.S., &c.

In 1865 the "Elizabeth Torrance Gold Medal" was founded and endowed by John Torrance, Esq., of St. Antoine Hall, Montreal, in memory of the late Mrs. John Torrance, for the best student in the graduating class in Law, and more especially for the highest proficiency in Roman Law.

In the same year, the "Holmes Gold Medal" was founded by the Medical Faculty, as a memorial of the late Andrew Holmes, Esq., M.D., LL.D., late Dean of the Faculty of Medicine, to be given to the best student in the graduating class in Medicine who shall undergo a special examination in all the branches, whether Primary or Final.

In 1874 a Gold and Silver Medal were given by his Excellency the Earl of Dufferin, Governor General of Canada, for competition in the Faculty of Arts, and continued till 1878.

In 1878 the "Sutherland Gold Medal" was founded by Mrs. Sutherland of Montreal, in memory of her late husband, Prof. William Sutherland, M.D., for competition in the classes of Theoretical and Practical Chemistry in the Faculty of Medicine, together with creditable standing in the Primary Examinations.

In 1875 the "Neil Stewart prize of $20 in Hebrew" was endowed by Neil Stewart, Esq., of Vankleek Hill, in the sum of $340.

In 1880 a Gold and a Silver Medal were given by His Excellency the Marquis of Lorne, Governor General of Canada, the former for competition in the Faculty of Arts, the latter for competition in the Faculty of Applied Science; continued till 1883.

In 1883 a Gold, Silver and Bronze Medal were given by R. J. Wicksteed, Esq., M.A., LL.D., for competition in "Physical Culture" by Students in the Graduating Class and 2nd and 3rd years who have attended the University Gymnasium.

In 1884 a Gold and a Silver Medal were given by His Excellency the Marquis of Lansdowne, Governor General of Canada, the former for competition in the Faculty of Arts, the latter for competition in the Faculty of Applied Science.

In 1885 the British Association Gold Medal for competition in the graduating class in the Faculty of Applied Science, was founded by subscription of members of the British Association for the Advancement of Science, and by gift of the council of the Association, in commemoration of its meeting in Montreal in the year 1884.

VII. SUBSCRIPTIONS TO THE GENERAL ENDOWMENT.

1856.

John Gordon McKenzie, Esq..	$2000	Charles Alexander, Esq.....	$600
Ira Gould, Esq.....	2000	Moses E. David, Esq.....	600
John Frothingham, Esq.....	2000	Wm. Carter, Esq.....	600
John Torrance, Esq.....	2000	Thomas Paton, Esq.....	600
James B. Greenshields, Esq....	1200	Wm. Workman, Esq	600
William Busby Lambe, Esq....	1200	Honourable Sir A. T Gault....	600
Sir George Simpson, Knight...	1000	Honourable Luther H. Holton..	600
Henry Thomas, Esq.....	1000	Henry Lyman, Esq.....	600
John Redpath, Esq.....	1000	David Torrance, Esq.....	600
James McDougall, Esq.....	1000	Edwin Atwater, Esq.....	600
James Torrance, Esq.....	1000	Theodore Hart, Esq.....	600
Honourable James Ferrier.....	1000	William Forsyth Grant, Esq....	600
Harrison Stephens, Esq.....	1000	Robert Campbell, Esq.....	600
Henry Chapman, Esq.....	600	Alfred Savage, Esq.....	600
Honourable Peter McGill.....	600	James Ferrier, Jun., Esq.....	600
John James Day, Esq.....	600	William Stephens, Esq.....	600
Thomas Brown Anderson, Esq..	600	N. S. Whitney, Esq.....	600
Peter Redpath, Esq.....	600	William Dow, Esq.....	600
Thomas M. Taylor, Esq.....	600	William Watson, Esq.....	600
Joseph McKay, Esq.....	600	Edward Major, Esq	600
Donald Lorn McDougall, Esq..	600	Honourable Charles Dewey Day	200
Honourable Sir John Rose.....	600	John R. Esdaile, Esq	200

1871.

William Molson, Esq.....	$5000	T. W. Ritchie, Esq.....	$600
William C. McDonald, Esq....	5000	Messrs. A. & W. Robertson...	600
Thomas Workman, Esq.....	5000	Messrs. Sinclair, Jack & Co....	250
John Frothingham, Esq.....	5000	John Reddy, Esq., M.D.....	100
J. H. R. Molson, Esq.....	2000	Wm. Lunn, Esq.....	100
John McLennan, Esq.....	1000	Kenneth Campbell, Esq.....	100
B. Gibb, Esq	600	R. A. Ramsay, Esq.....	100
W. Notman, Esq	600	William Rose, Esq	50

1881-82.

Hugh McLennan, Esq	$5000	O. S. Wood, Esq	$1000
G. A. Drummond, Esq.....	4000	J. S. McLachlan, Esq.....	1000
George Hague, Esq.....	3000	J. B. Greenshields, Esq.(London)	1000
M. H. Gault, Esq.....	2000	Warden King, Esq	1000
Andrew Robertson, Esq.....	1000	W. B. Cumming	1000
Robert Campbell, Esq	1000	Mrs. Hew Ramsay	500
J. Hickson, Esq., & Mrs. Hickson	1000	R. A. Ramsay, Esq.....	500
Mrs. Andrew Dow.....	1000	H. H. Wood, Esq.....	500
Alexander Murray, Esq.....	1000	James Burnett, Esq.....	500
Miss Orkney.....	1000	Charles Gibb, Esq.....	500
Hector MacKenzie, Esq.....	1000		

1883-84.

Edward Mackay, Esq..... $5000

VIII. SUBSCRIPTION FOR CURRENT EXPENSES IN 1881-82.

Principal Dawson	$1000	Being	$1000
J. H. R. Molson, Esq	1000	Per annum, 5 years being	5000
George Stephen, Esq	1000	" " "	5000
Hon. Donald A. Smith	1000	" " "	5000
David Morrice, Esq	200	" " "	1000
Messrs. Gault Brothers & Co.	200	" " "	1000
Messrs. A. S. & S. H. Ewing	200	" " "	1000
Hon. Robert Mackay	300	Per annum, 2 years, being	600
Jonathan Hodgson, Esq	100	Per annum, 5 years, being	500
Geo. M. Kinghorn, Esq	100	" " "	500
Thomas Craig, Esq	100	Per annum, 2 years, being	200
John Rankin, Esq	200	Being	200
John Duncan, Esq	200	"	200
Robert Benny, Esq	100	"	100
Miss E. A. Ramsay	100	"	100
Hugh Paton, Esq	50	For 2 years, being	100
George Brush, Esq	25	For 5 years, being	125
J. M. Douglas, Esq	50	Being	50
James Court, Esq	50	"	50
David J. Greenshields, Esq	300	"	300

IX. ENDOWMENT FOR FACULTY OF APPLIED SCIENCE.

1871.

Daniel Torrance, Esq.	$5000
George Moffatt, Esq	1000
Charles J. Brydges, Esq	1000
Robert J. Reekie, Esq	1000

X. ANNUAL SUBSCRIPTIONS IN AID OF THE FACULTY OF APPLIED SCIENCE.

1871.

Hon. James Ferrier (per annum, for 10 years)	$100
Peter Redpath, Esq. (per annum, for 10 years)	400
John H. R. Molson, Esq. (per annum, for 10 years)	400
George H. Frothingham, Esq. (per annum, for 7 years)	400
T. James Claxton, Esq. (per annum, for 6 years)	100
Donald Ross, Esq. (per annum, for 5 years)	50

1878-79.

Miss Mary Frothingham (per annum, for 3 years)	$400
H. McLennan, Esq., (per annum, for 5 years)	100
A. F. Gault, Esq., do do	100
Gilbert Scott, Esq., for 2 years	100
Joseph Hickson, Esq., do	100
Principal Dawson, do	300
His Excellency the Marquis of Lorne	500
Mrs. Redpath (Terrace Bank)	100

1882-83.

To provide assistance in Mechanical Engineering.

E. B. Greenshields, Esq.	$50
J. E. Bovey, Esq	50
Professor H. T. Bovey	61
Smaller amounts	40

XI. SUBSCRIPTIONS FOR SPECIAL OBJECTS.

1883-84.

Subscriptions for the support of the Chair of Botany.

Principal Dawson	$500	Per annum,	5 years,	being	$2500
Hon. D. A. Smith	250	"	"	"	1200
J. H. R. Molson, Esq	100	"	"	"	500
Mrs. J. H. R. Molson	100	"	"	"	500
G. Hague, Esq	100	"	"	"	500
Mrs. Redpath	100	"	"	"	500
Hugh Mackay, Esq	100	"	"	"	500
Robert Moat, Esq	100	"	"	"	500
W. C. McDonald, Esq	100	"	"	"	500
Charles Gibb, Esq	50	"	"	"	250
Miss Orkney	50	"	"	"	250
Robert McKay, Esq	50	"	"	"	250
Mrs. Molson	50	"	"	"	250
Mrs. John Molson	50	"	"	"	250
John Stirling, Esq	50	"	"	"	250
Warden King, Esq	50	"	"	"	250
Miss Hall	50	"	"	"	250
Robert Angus, Esq	50	"	"	"	250
D. A. P. Watt, Esq	50	"	"	"	250
Hugh McLennan, Esq	25	"	"	"	150
Joseph Hickson, Esq	10	"	"	"	50
Mrs. Phillips					10

Subscriptions for the purchase of Philosophical Apparatus, 1867.

William Molson, Esq	$500	John Frothingham, Esq	$100
John H. R. Molson, Esq	500	David Torrance, Esq	100
Peter Redpath, Esq	500		
George Moffatt, Esq	250		$2,050
Andrew Robertson, Esq	100		

Subscriptions for the erection of a fire-proof Building for the Carpenter Collection of Shells, 1868.

Peter Redpath, Esq	$500	Wm. Dow, Esq	$100
William Molson, Esq	500	Thomas Rimmer, Esq	100
Harrison Stephens, Esq	100	Andrew Robertson, Esq	100
Robert J. Reekie, Esq	100	Mrs. Redpath	100
John H. R. Molson, Esq	100	Benaiah Gibb, Esq	50
Sir William E. Logan, F.R.S.	100	Honourable John Rose	50
John Molson, Esq	100		$2,180
Thos. Workman, Esq., M P	100		
Geo. H. Frothingham, Esq	100		

Subscriptions for the erection of the Lodge and Gates.

William Molson, Esq	$100	James A. Mathewson, Esq	$100
John H. R. Molson, Esq	100	Peter Redpath, Esq	100
William Workman, Esq	100	G. H. Frothingham, Esq	100
Joseph Tiffin, Jr., Esq	100	G. D. Ferrier, Esq	100
Thos. J. Claxton, Esq	100	Geo. W. Warner, Esq	100
James Linton, Esq	100	John Smith, Esq	100
William McDougall, Esq	100	Charles Alexander, Esq	100
Charles J. Brydges, Esq	100	J. Evans, Esq	100
George Drummond, Esq	100	Henry Lyman, Esq	100
Thomas Rimmer, Esq,	100		$2,100
William Dow, Esq	100		
John Frothingham, Esq	100		

Subscriptions for the internal fittings of the Library and Museum of the Faculty of Medicine, 1872.

G. W. Campbell. A.M., M D..	$1200	Robert Craik, M.D.....	200
Wm. E. Scott, M.D.....	200	Geo. E. Fenwick, M.D.....	200
Wm. Wright. M.D.....	200	Joseph M. Drake, M.D.....	200
Robert P. Howard, M.D.....	200	George Ross, M.A., M.D.....	50
Duncan C. McCallum, M.D....	200		

Subscriptions for Library and Museum.

John Thorburn, for purchase of Books	$90	A Lady, for Museum Expenses, in 1882	100
Andrew Drummond, do for Applied Science.....	25	A Lady, for Museum Expenses, in 1883.....	2000
T. J. Claxton, Esq., for purchase Specimens for Museum	250	Peter Redpath, Esq., for Museum Expenses, 1882, $1000, 1883, 1,000, 1884, 1.000.....	3000
Mrs. H. G. Frothingham, for the arrangement of Dr. Carpenter's Collection of Mazatlan shells.	233	A Friend, for the purchase of specimens for the Museum....	1000

Subscriptions for Apparatus.

A Lady, for the purchase of Mining Models	$1000
Thos. McDougall, Esq., for the same	25
J. Livesey, Esq., through Dr. Harrington, for the same	50
George Stephen, Esq., for the same	50
Charles Gibb, B.A., donation for Apparatus in Applied Science.....	50
Andrew Drummond, Esq., to Library Fund of Faculty of Applied Science.	25

A Telescope and Astronomical Instruments, the gift of Charles T. Blackman, Esquire, of Montreal, and called after his name.

The Local Committee for the reception (1881) of American Society of Civil Engineers.....	For the purchase of appliances for the department of Civil Engineering in Faculty of Applied Science	475

Subscriptions for Physiological Laboratory of Medical Faculty, 1879.

Dr. Campbell	$100	Dr. Ross.....	$50
Dr. Howard	100	Dr. Roddick.....	50
Dr. Craik	100	Dr. Buller.....	50
Dr. McCallum	100	Dr. Gardner.....	50
Dr. Drake	100	Dr. Osler	50
Dr. Godfrey.....	100		$ 950
Dr. McEachran, F.R.C.V.S....	100		

Miscellaneous.

Hon. C. Dunkin, M.P., in aid of the chair of Practical Chemistry.....	$1200	T. M. Thompson, Esq., $250 for two Exhibitions in September, 1871; $200 for two Exhibitions in 1872	$450
Principal Dawson, in aid of the same	100	Rev. Colin C. Stewart, for the "Stewart Prize in Hebrew." (Terminated in 1875.)	60
P. Redpath, Esq., do do	226		

R. A. Ramsay, M.A., B.C.L., to defray the expenses of re-erecting the tomb of the late Hon. James McGill $150 00

XII. LIBRARY, MUSEUM AND APPARATUS FUNDS.

Wm. Molson, Esq., for Library Fund	$4000	A Friend by the Hon. F. W. Torrance	400
Wm. Molson, Esq., for Museum Fund	2000	The Local Committee of the British Association for the Advancement of Science, to found the British Association Apparatus Fund in the Faculties of Arts and Applied Science, in commemoration of the meeting of the Association in Montreal in 1884	150
Hon. F. W. Torrance, Mental and Moral Philosophy Book Fund	1000		
Mrs. Redpath, for the endowment of the Wm. Wood Redpath Library Fund	1000		

XIII. ENDOWMENT, HELD IN TRUST BY THE BOARD OF ROYAL INSTITUTION.

The "Hannah Willard Lyman Memorial Fund," contributed by subscription of former pupils of Miss Lyman, and invested as a permanent Endowment, to furnish annually a Scholarship or Prize in a "College for Women" affiliated to the University; or in classes for the Higher Education of Women approved by the University. The amount of the fund is at present $1,100.

XIV. SPECIAL COLLECTIONS OF BOOKS PRESENTED TO THE LIBRARY.

1. The Peter Redpath Collection of Historical Books—presented by Peter Redpath, Esq., of Montreal, 2272 Volumes.
2. The Robson Collection of works in Archæology and general Literature, presented by Dr. John Robson of Warrington, England, 3436 Volumes.
3. The Charles Alexander Collection of Classical Works presented by C. Alexander, Esq., of Montreal, 221 Volumes.
4. Frederick Griffin, Esq., Q.C., Collection of Books, being the whole of his Library, bequeathed by his will, 2692 Volumes.
5. The Hon. Mr. Justice McKay, Collections of Books, being the whole of his Library, 2007 volumes.
6. The "T. D. King Shakespeare Collection," presented by the Hon. Donald A. Smith and W. C. MacDonald, Esq., of Montreal, being 214 Volumes

XV. SPECIAL COLLECTIONS PRESENTED TO THE MUSEUM.

1. The Holmes Herbarium—presented by the late Andrew F. Holmes, M.D.
2. The Carpenter Collection of Shells—presented by the late P. P. Carpenter, Ph. D.
3. The Collection of Casts of Ivory Carvings issued by the Arundel Society—presented by Henry Chapman, Esq.
4. The McCulloch Collection of Birds and Mammals, collected by the late Dr. M. McCulloch, of Montreal and presented by his heirs.

5. The Logan Memorial Collection of Specimens in Geology and Natural History, presented by the heirs of the late Sir W. E. Logan, LL.D., F.RS.

6. The Dawson Collection in Geology and Palæontology, being the Private Collections of Principal Dawson, presented by him to the Museum.

7. The Portrait of Peter Redpath, Esq., painted y Mr. Sydney Hodges of London, and presented by Citizens of Montreal

(See also "List of Donations to the Library and Museum," printed annually in the Calendar and Report of the Museum.)

XVI. ENDOWMENTS OF THE FACULTY OF MEDICINE.

I. Lean Choil Endowment.

Honorable Donald A. Smith $50,000

II. Campbell Memorial Endowment.

Established to commemorate the services rendered to the Faculty during forty years by the late Dean, George W. Campbell, M.D., LL.D.

Mrs. G. W. Campbell	$2000	John Rankin, Esq	500
H. A. Allan	1500	Cantlie, Ewan & Co	500
Hon. D. A. Smith	1500	Robt. Reford	500
George Stephen, Esq	1000	J. & W. Ogilvie	500
R. B. Angus, Esq	1000	Randolph Hersey, Esq	500
George Drummond, Esq	1000	John A. Pillow, Esq	500
Alex. Murray, Esq	1000	S. Carsley, Esq	500
Robt. Moat, Esq	1000	D. C. McCallum, M.D	500
W. C. McDonald, Esq	1000	McLachlan Bros	500
A Friend	1000	S. Greenshields, Son & Co	500
Duncan McIntyre, Esq	1000	Jonathan Hodgson, Esq	500
Alex. Buntin, Esq	1000	Duncan McEachran, Esq., F.R.C.V.S	500
A. F. Gault, Esq	1000	Geo. Ross, M.D	500
M. H. Gault, Esq	1000	T. G. Roddick, M.D	500
G. W. Stephens, Esq	1000	Wm. Gardner, M.D	500
James Benning, Esq	1000	G. P. Girdwood, M.D	500
R. P. Howard, M.D	1000	G. E. Fenwick, M.D	500
Frank Buller, M. D	1000	Alex. Ramsay, Esq	500
G. B. & J. H. Burland, Esqrs	1000	Cochrane, Cassils & Co	500
Miss Elizabeth C. Benny	1000	Joseph Hickson, Esq	500
J. C. Wilson, Esq	1000	Allan Gilmour (Ottawa)	500
Mrs. John Redpath	1000	R. W. Shepherd, Esq	500
Hon. John Hamilton	1000	Miles Williams, Esq	300
Miss Orkney	1000	Chas. F. Smithers, Esq	250
Hugh McKay, Esq	1000	John Kerry, Esq	250
Hector McKenzie, Esq	1000	A. Baumgarten, Esq	250
Thomas Workman, Esq	1000	V. R. Elmenhort, Esq	250
Hugh McLellan, Esq	1000	W. F. Lewis, Esq	250
O. S. Wood, Esq	1000	Geo. Armstrong, Esq	250
James Burnett, Esq	500	J. M. Douglas, Esq	250
Andrew Robertson, Esq	500	H. Lyman, Sons & Co	250
Robt. McKay, Esq	500	William Osler, M.D	250
John Hope, Esq	500	F. J. Shepherd, M.D	250
Alex. Urquhart, Esq	500	Benj. Dawson, Esq	200
E. K. & G. A. Greene, Esqs	500	R. Wolff, Esq	150
R. A. Smith, Esq	500	James Stewart, M.D	150
Geo. Hague, Esq	500	Mrs. Cuthbert (New Richmond, Q)	100
J. K. Ward, Esq	500	J. M. Drake, M.D	100
Warden King, Esq	500		
John Sterling, Esq	500		

ENDOWMENTS—*Continued*

H. W. Thornton, M.D., (New Richmond, Q.)	100
A, T. Paterson, Esq.	100
M. E. David, Esq	100
C. B. Hanvey, M.D.,(Yale, B.C)	100
D. Clueness, M.D., (Nanaimo, B. C)	100
W. Kinloch, Esq.	100
Hua & Richardson	100
Hugh Paton, Esq	100
R. T. Godfrey, M.D.	100
T. A. Rodger, M.D.	100
W. A. Dyer, Esq.	100
G. W. Wood, M.D., (Faribault, Min)	100
A A Browne, M.D.	100
George Wilkins, M.D.	100
Joseph Workman, M.D., (Toronto)	50
Henry. Luman, B.A., M.D., Campbell, N.B.	50
Griffith Evans, M.D., (Vet. Dept Army)	25
J. J. Farley, M.D., (Belleville)	25
Henry R. Gray, Esq	25
Louis T. Marceau, M.D., (Napierville, Q)	25
R. J. B. Howard, M.D.	25
T. J. Alloway, M.D.	25
R. F. Rinfret, (Quebec)	20
Robt. Howard, M.D., (St. Johns).	20
Dr. J. & D. J. McIntosh, (Vankleek Hill	20
J. E. Brouse, M.D., (Prescott)	20
J H McBean, MD	15
J C.Rattray, MD	10
J. H. Howard, M.D., (Lachine).	10
J. W. Oliver, M.D., (Clifton, O)	10
D. A. McDougall, M.D.,(Ottawa O)	10
A. Pousette, M.D., (Sarnia, O).	10
A. Ruttan, M.D., (Napanee, O).	10
James Gun, M.D., (Durham, O)	10
J. McDiarmid, M.D	5
W. J. Derby, M.D.	5
J. Gillies, M.D	5
J. B. Benson, M.D	5
L. A. Fortier, M.D	5
J. A. McArthur, M.D.	5
John Campbell, M.D.,(Seaforth,O)	5

THE GRADUATES FUND.

THE FUND FOR ENDOWMENT OF THE LIBRARY.

The Graduates' Society of the University, in 1876, passed the following Resolution :—

"*Resolved* :—"That the members and graduates be invited to subscribe "to a fund for the endowment of the Libraries of the University ; said fund to be "invested and the proceeds applied under the supervision of the Council of the "Society in annual additions to the Libraries ; an equitable division of said pro- "ceeds to be made by the Council between the University Library and those of "The Professional Faculties."

(In terms thereof, the following subscriptions have been announced to date May 1st, 1883), they are payable in one sum, or in instalments as subscribers have elected.

Alphabetically Arranged.

Baynes, O'Hara, B.C.L.	$ 50
Bethune, M.B., M.A., B.C.L.	50
Blackader, Alex. D., B.A., M.D.	50
Burland, J. H., B. App. Sc.	120
Browne, A. A., B.A., M.D.	50
Cline, J. D., B.A., M.D	25
Cushing, Lemuel, LL.D., B.C.L.	25
Dougall, J. R., M.A.	50
Ells, R. W., M.A	50
Empson, Rev. J., M.A	25
Gardner, Wm., M.D.	100
Gibb, Charles, B.A	50
Gilman, F.E., LL.D., B.C.L.	100
Gould, C. H., B.A	100

Alphabetically Arranged—Continued.

Hall, J. S., Jr., B.A., B.C.L.	50
Hall, Rev. W., M.A.	10
Harrington, B. J., B.A., Ph.D.	50
Holton, Edward, B.C.L.	100
Hutchison, M., B.C.L.	5
Keller, F. J., B.C.L.	25
Kelley, F. W., B.A., Ph.D.	100
Laing, Rev. R., M.A.	100
Lyman, F. S., B.A., B.C.L.	50
Lyman, H. H., M.A.	100
Molson, Wm., M.D.	100
Mackenzie, Fred., B.C.L.	100
Maclaren, J. J., M.A., B.C.L.	100
McCord, D. R., M.A., B.C.L.	100
McGregor, James, LL.D.	80
Macleod, C. H., Ma. E.	50
Macmaster, D., B.C.L.	100
Marler, Wm. De M., B.A., B.C.L.	125
Osler, Wm., M.D.	100
Ramsay, R.A., M.A., B.C.L.	100
Rexford, Rev. E.I., B.A.	50
Robertson, Alex., B.A.	100
Robins, S.P., LL.D.	50
Roddick, T. G., M.D.	100
Ross, George, M.A., M.D.	100
Shepherd, J. F., M.D.	100
Torrance, J. F., B.A., B. App. Sc.	100
Trenholme, N. W., M.A., B.C.L.	100
Total to date	$3090

THE DAWSON PRINCIPALSHIP FOUNDATION.

The Graduates' Society of the University, in 1880, and in commemoration of the completion by Dr. Dawson of his twenty-fifth year as Principal, resolved to raise, with the assistance of their friends, a Fund towards the Endowment of the Principalship, under the above name.

Details of the scheme can be had from the Treasurer, Wm. Molson, Esq., M.D. The following subscriptions have been announced to date May 1st, 1883. They are payable in one sum, in instalments without interest, or with interest till payment of capital, as subscribers have elected.

Alphabetically Arranged.

Abbott, H., B.C.L.	$ 60
Archbald, H., B. App. Sc.	20
Bethune, M. B., M.A., B.C.L.	50
Carter, C. B., B.C.L.	100
Cruikshank, W. G., B.C.L.	100
Dougall, J. R., M.A.	250
Dawson, W. B., M.A., Ma.E.	50
Gibb, C., B.A.	100
Hutchison, M., B.C.L.	400
Hall, Rev. Wm., M.A.	100
Hall, J. S., jr., B.A., B.C.L.	100
Harrington, B. J., B.A., Ph.D.	50
Kirby, J., LL.D., D.C.L.	50
Lighthall, W. D., B.A., B.C.L.	100
Lyman, H. H., M.A.	100
Lyman, A. C., M.A., B.C.L.	50
Leet, S. P., B.C.L.	100
McCormick, D., B.A.L.	100
McLennan, J. S., B.A.	100
McGibbon, R. D., B.A., B.C.L.	100
McGoun, A., jr., B.A., B.C.L.	50
Ramsay, R. A., B.A., B.C.L.	50
Stewart, J., M.D.	60
Stewart, D. A., B. App. Sc.	20
Stephens, C. H., B.C.L.	100
Spencer, J. W., B.A.Sc., Ph.D.	50
Tait, M. M., B.C.L.	100
Taylor, A. D., B.A., B.C.L.	100
Trenholme, N. W., M.A., B.C.L.	400
Total to date	$3910

ACADEMICAL YEAR, 1885-86.

SEPTEMBER, 1885.

1 Tuesday	Normal School opens
2 Wednesday	Meeting of Normal School Committee
3 Thursday	
4 Friday	
5 Saturday	
6 SUNDAY	
7 Monday	
8 Tuesday	
9 Wednesday	
10 Thursday	
11 Friday	
12 Saturday	
13 SUNDAY	
14 Monday	Meetings Fac. Arts and App. Science
15 Tuesday	Mat. and Sup. Exn's in Classics, Exhib. and Scholarship Exam.
16 Wednesday	Mat. and Sup. Ex'ns in Math's. Exhibition & Scholarship Ex'ns
17 Thursday	Mat. and Sup. Ex'ns in English, Logic, Men. and Mor. Phil. Exhib. and Sch. Exam'ns.
18 Friday	Mat. & Supp. Ex'ns in Modern Lang's and Nat. Sc.; Exhib. and Sch. Exam'ns.
19 Saturday	
20 SUNDAY	
21 Monday	Lect's in Arts and App. Sc. begin.
22 Tuesday	
23 Wednesday	Meetings of Faculty of Arts.
24 Thursday	
25 Friday	Matric. Exams. in Med.
26 Saturday	Meeting of Governors, Register Med. Fac. opens.
27 SUNDAY	
28 Monday	
29 Tuesday	Summer Essays in App. Sc. given in.
30 Wednesday	

OCTOBER, 1885.

1 Thursday	Session of Medical and Law Faculties begins.
2 Friday	
3 Saturday	
4 SUNDAY	
5 Monday	
6 Tuesday	Founder's Birthday. Meeting of Fac. of App. Science.
7 Wednesday	Meeting of Nor. Sch. Committee. Meeting Fac. of Arts.
8 Thursday	
9 Friday	The William Molson Hall opened 1862.
10 Saturday	
11 SUNDAY	
12 Monday	
13 Tuesday	
14 Wednesday	
15 Thursday	
16 Friday	Univty. Athletic Sports.
17 Saturday	
18 SUNDAY	
19 Monday	
20 Tuesday	
21 Wednesday	Meeting of Faculty of Arts.
22 Thursday	
23 Friday	
24 Saturday	Meeting of Governors.
25 SUNDAY	
26 Monday	Meeting of Museum Com.
27 Tuesday	Meeting of Library Com.
28 Wednesday	Regular Meeting of Corporat'n. School Examiners appointed.
29 Thursday	
30 Friday	Reps. on Schol'ship & Exh.
31 Saturday	Accounts audited.

NOVEMBER, 1885.

1 SUNDAY	
2 Monday	
3 Tuesday	Meeting of Fac. App. Science.
4 Wednesday	Meeting of Faculty of Arts and
5 Thursday	of Nor. School Com.
6 Friday	
7 Saturday	
8 SUNDAY	
9 Monday	
10 Tuesday	
11 Wednesday	
12 Thursday	
13 Friday	
14 Saturday	
15 SUNDAY	
16 Monday	
17 Tuesday	
18 Wednesday	Meeting of Faculty of Arts.
19 Thursday	
20 Friday	
21 Saturday	
22 SUNDAY	
23 Monday	
24 Tuesday	
25 Wednesday	
26 Thursday	
27 Friday	
28 Saturday	Meeting of Governors.
29 SUNDAY	
30 Monday	

DECEMBER, 1885.

1 Tuesday	Meeting of Faculty of App. Sc.
2 Wednesday	Meeting of Nor. Sch. Com'tee
3 Thursday	Meeting of Faculty of Arts.
4 Friday	
5 Saturday	
6 SUNDAY	
7 Monday	
8 Tuesday	
9 Wednesday	
10 Thursday	
11 Friday	Lect's in Arts and Ap. Sc. end.
12 Saturday	Exam. Bot. Med. Studs.
13 SUNDAY	
14 Monday	Christmas Examinations begin.
15 Tuesday	
16 Wednesday	Meeting Fac. Arts.
17 Thursday	Exams. in Med. Lects. in Med.
18 Friday	close.
19 Saturday	Meeting of Governors.
20 SUNDAY	
21 Monday	Christmas Vacation begins.
22 Tuesday	
23 Wednesday	
24 Thursday	
25 Friday	Christmas-Day.
26 Saturday	
27 SUNDAY	
28 Monday	
29 Tuesday	
30 Wednesday	
31 Thursday	

JANUARY, 1886.

1 Friday	
2 Saturday	
3 SUNDAY	
4 Monday	Christmas Vacation ends.
5 Tuesday	Lectures in Arts, Law, Med. & Applied Science recommence. Meeting of Fac. of App. Sce.
6 Wednesday	Meeting of Fac. Arts. Meeting of Nor. Sc. Committee.
7 Thursday	
8 Friday	
9 Saturday	
10 SUNDAY	
11 Monday	
12 Tuesday	
13 Wednesday	
14 Thursday	
15 Friday	
16 Saturday	
17 SUNDAY	
18 Monday	
19 Tuesday	
20 Wednesday	Meeting of Faculty of Arts.
21 Thursday	
22 Friday	
23 Saturday	Meeting of Governors.
24 SUNDAY	
25 Monday	Meeting of Museum Com.
26 Tuesday	Meeting of Library Com.
27 Wednesday	Regular Meet'g of Corporation. Examiners appointed. Annual Report to Visitor.
28 Thursday	Theses for M.A. & LL.D. to be sent in to the Vice-Dean of Faculty of Arts.
29 Friday	
30 Saturday	
31 SUNDAY	

FEBRUARY, 1886.

1 Monday	Theses for Deg of B.C.L. to be sent in to Dean of Fac. of Law
2 Tuesday	Meeting of Faculty of Arts, and of Nor. Sch. Committee.
3 Wednesday	Meeting of Examiners.
4 Thursday	
5 Friday	
6 Saturday	
7 SUNDAY	
8 Monday	
9 Tuesday	Meeting of Fac. App. Science.
10 Wednesday	
11 Thursday	
12 Friday	
13 Saturday	
14 SUNDAY	
15 Monday	
16 Tuesday	
17 Wednesday	Meeting of Faculty of Arts.
18 Thursday	
19 Friday	Supplemental Exam's in Arts and Applied Science.
20 Saturday	
21 SUNDAY	
22 Monday	
23 Tuesday	
24 Wednesday	
25 Thursday	
26 Friday	
27 Saturday	Meeting of Governors.
28 SUNDAY	

MARCH, 1886.

1 Monday	Theses for Degree of B.C.L. to be sent in to Dean of Faculty.
2 Tuesday	Meeting of Fac. of Ap. Science.
3 Wednesday	Meeting of Faculty of Arts and
4 Thursday	meeting of Nor. Sc. Com.
5 Friday	
6 Saturday	
7 SUNDAY	
8 Monday	
9 Tuesday	
10 Wednesday	No Lectures.
11 Thursday	Examinations in Law. Lectures in Medicine end.
12 Friday	Examinations in Law. Exam. in Botany, Med. Fac.
13 Saturday	
14 SUNDAY	
15 Monday	Exam's in Law. Preliminary Exam's in Med. begin.
16 Tuesday	Examinations in Law.
17 Wednesday	Meeting of Fac. of Arts. Ex-
18 Thursday	aminations in Law.
19 Friday	Examinations in Law.
20 Saturday	Examinations in Law.
21 SUNDAY	
22 Monday	Final Exam's in Med.
23 Tuesday	
24 Wednesday	Meeting of Fac. of Arts. Re-
25 Thursday	ports of Attendance on Lects.
26 Friday	
27 Saturday	Meeting of Governors.
28 SUNDAY	
29 Monday	
30 Tuesday	Convocation for Degrees in Med.
31 Wednesday	Convocation for Deg's in Law.

APRIL, 1886.

1 Thursday	Lects. in Arts and Ap. Sc. end.
2 Friday	
3 Saturday	
4 SUNDAY	[Science begin.
5 Monday	Exam's in Arts and Applied
6 Tuesday	Meeting of Fac. of Ap. Science.
7 Wednesday	Meeting of Nor. Sc. Committee.
8 Thursday	
9 Friday	
10 Saturday	
11 SUNDAY	
12 Monday	Sumr. Session Med. Fac. begins
13 Tuesday	
14 Wednesday	Meeting of Fac. of Arts. Meet-
15 Thursday	ing of Examiners.
16 Friday	
17 Saturday	
18 SUNDAY	
19 Monday	
20 Tuesday	
21 Wednesday	Meeting of Examiners.
22 Thursday	[begins.
23 Friday	Good Friday. Easter vacation
24 Saturday	Meeting Baord of Governors
25 SUNDAY	Easter day.
26 Monday	Meeting of Museum Committee.
27 Tuesday	Meeting of Library Committee. Easter vacation ends.
28 Wednesday	Regularmeeting of corporation.
29 Thursday	Meeting of Examiners. Declaration of result of Exam's.
30 Friday	Meeting of Convocation.

MAY, 1886.

1 Saturday	
2 SUNDAY	
3 Monday	Exams. in Nor. School begin.
4 Tuesday	Normal School Committee.
5 Wednesday	
6 Thursday	
7 Friday	
8 Saturday	
9 SUNDAY	
10 Monday	
11 Tuesday	
12 Wednesday	Meeting of Examiners for Sch. Examinations.
13 Thursday	
14 Friday	
15 Saturday	
16 SUNDAY	
17 Monday	
18 Tuesday	
19 Wednesday	
20 Thursday	
21 Friday	
22 Saturday	Meeting of Governors.
23 SUNDAY	
24 Monday	
25 Tuesday	Queen's Birthday.
26 Wednesday	
27 Thursday	
28 Friday	Normal Sch. closes for Summer Vacation.
29 Saturday	
30 SUND	
31 Monday	

JUNE, 1886.

1 Tuesday	Examinations for Certificate of Associate in Arts begin.
2 Wednesday	Normal School Committee.
3 Thursday	
4 Friday	
5 Saturday	
6 SUNDAY	
7 Monday	
8 Tuesday	
9 Wednesday	
10 Thursday	
11 Friday	
12 Saturday	
13 SUNDAY	
14 Monday	Whit-Sunday.
15 Tuesday	
16 Wednesday	
17 Thursday	
18 Friday	
19 Saturday	Declaration of results of school examinations.
20 SUNDAY	
21 Monday	Meeting Museum Committee.
22 Tuesday	Meeting of Library Committee.
23 Wednesday	Regular Meeting of Corporat'n
24 Thursday	Report of Normal School.
25 Friday	
26 Saturday	Meeting of Governors.
27 SUNDAY	
28 Monday	
29 Tuesday	
30 Wednesday	

JULY, 1886.

1 Thursday	
2 Friday	Sumr. Sessn. Med. Fac. ends.
3 Saturday	
4 SUNDAY	
5 Monday	
6 Tuesday	
7 Wednesday	
8 Thursday	
9 Friday	
10 Saturday	
11 SUNDAY	
12 Monday	
13 Tuesday	
14 Wednesday	
15 Thursday	
16 Friday	
17 Saturday	
18 SUNDAY	
19 Monday	
20 Tuesday	
21 Wednesday	
22 Thursday	
23 Friday	
24 Saturday	
25 SUNDAY	
26 Monday	
27 Tuesday	
28 Wednesday	
29 Thursday	
30 Friday	
31 Saturday	

AUGUST, 1886.

1 SUNDAY	
2 Monday	
3 Tuesday	
4 Wednesday	
5 Thursday	
6 Friday	
7 Saturday	
8 SUNDAY	
9 Monday	
10 Tuesday	
11 Wednesday	
12 Thursday	
13 Friday	
14 Saturday	
15 SUNDAY	
16 Monday	
17 Tuesday	
18 Wednesday	
19 Thursday	
20 Friday	
21 Saturday	
22 SUNDAY	
23 Monday	
24 Tuesday	
25 Wednesday	
26 Thursday	
27 Friday	
28 Saturday	
29 SUNDAY	
30 Monday	
31 Tuesday	

EXAMINATIONS.—1885-86.

FACULTY OF APPLIED SCIENCE.

CHRISTMAS, 1885.

The days of the several Examinations will be announced by the Faculty during the Session.

SESSIONAL, 1886.

Days.	First Year.	Second Year.	Third Year.	Fourth Year.
5 Mon.		Mechanism.	Theory of Struct.	Theory of Structures. Mineralogy (adv).
6 Tues.	Freehand Drawing.	Descrpt've Geomet'y	Descrp've Geometry Machinery.	Geology (adv.)
7 Wedn.		Surveying.	Surveying.	Hydraulics.
8 Thurs.		Essay.	Essay.	Essay.
9 Frid.	English.	Exp. Physics (a.m.) English (p.m.)	Exp. Physics (a.m.) English (p.m.)	Steam.
10 Sat.			Theory of Struct.	Theory of Structures.
12 Mond.	Mathematics.	Mathematics.	Mathematics.	
13 Tues.	Mathematics.	Mathematics.	Mathematics.	Theory of Structures.
14 Wedn.	Chemistry.	Chemistry.	Theo. of Struct.(adv) Chemistry.	Theo'y of Strct.(adv) Mach'y & Millwork.
15 Thurs.	French (a.m.) German (p.m.)	French (a.m.) German (p.m.)	French (a.m.) German (p.m.)	Theory of Structures. Assaying.
16 Frid.		Mechanical Work. Botany. Zoology.	Mechanical Work. Geology.	Theo'y of Strct.(adv) Geology.
17 Sat.	Practical Chemistry.	Materials.	Materials.	Materials.
19 Mon.	Mathematics.	Mathematics.	Mathematics.	Geology (adv.)
20 Tues.		Pract. Chemistry.	Mach'y & Millwork. Drainage. Pract. Chemistry.	Mach'y & Millwork. Drainage.
21 Wedn.			Mineralogy & Blow-pipe Analysis.	Hydraulics (adv.) Lithology.
22 Thurs.			Theoretical Chem'y. Mining.	Steam (adv.) Geology (adv.)
23 Frid. 24 Sat. 26 Mon. 27 Tues.	Easter Vacation.			
28 Wedn.	Declaration of Results.		Meeting of Corporation.	
29 Thurs.				
30 Friday.		Convocation.		

EXAMINATIONS.—1884-85.

FACULTY OF ARTS.

CHRISTMAS, 1885.

The days of the several Examinations will be announced by the Faculty during the Session.

SESSIONAL AND HONOUR EXAMINATIONS, 1885.

	First Year.		Second Year.		Third Year.		Fourth Year.	
	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
April 5 Mon.							B.A. Honours.	
" 6 Tues.							B.A. Honours.	
" 7 Wed.	Greek.		Greek.		Greek.		Greek.	
" 8 Thursday	Latin.	G. & R. Hist.	Latin.	Composition.	Latin.		Latin.	Latin.
" 9 Friday.	English.	Hebrew.	English.	English.	Ex. Physics.	English.	Ex. Physics.	History.
" 10 Sat.								
" 11 Sun.								
" 12 Mon.	Mathematics.		Mathematics.		Math. Phys.		Math. Physics.	
" 13 Tues.	Mathematics.		Mathematics.		Math. Phys.		Math. Physics.	Hebrew.
" 14 Wed.	Chemistry.		Logic.		Metaphysics.		Ethics.	Ethics.
" 15 Thurs.	French.	German.	French.	German.	French.	German.	French.	German.
" 16 Fri.			Botany.		Zoology.	Hebrew.	Geology.	Geology.
" 17 Sat.								
" 18 Sun.								
" 19 Mon.								B.A. Honours.
" 20 Tues.	{ Meeting of Examiners.							B.A. Honours.
" 21 Wed.	{ Honour Examinations.		Honour Examinations.		Honour Examinations.			B.A. Honours.
" 22 Thurs.	Honour Examinations.		Honour Examinations.		Honour Examinations.			B.A. Honours.
" 23 Fri.	Good Friday.							
" 24 Sat.								
" 25 Sun.	Easter Sunday.				Easter Vacation.			
" 26 Mon.								
" 27 Tues.								
" 28 Wed.	Meetings of Examiners. Declaration of results.		Meeting of Corporation.					
" 29 Thurs.								
" 30 Fri.	Convocation.							

Faculty of Arts.

THE PRINCIPAL (Ex-officio).

Professors:—LEACH (*Emeritus*).
DAWSON.
MARKGRAF.
JOHNSON.
CORNISH.
DAREY.
MURRAY.
HARRINGTON.
MOYSE.
PENHALLOW.

Lecturers:—COUSSIRAT,
CHANDLER.
MULGAN.

Dean of the Faculty:—VEN. ARCHDEACON LEACH, D.C.L., LL.D.
Vice-Dean:—ALEXANDER JOHNSON, LL.D.
Honorary Librarian:—Professor CORNISH, LL.D.

[CONTENTS.—*Matriculation*, &c., § I.; *Exhibitions*, &c., § II.; *Course of Study*, § III.; *Examinations, Degrees*, &c., § IV.; *Exemptions*, &c., § V.; *Medals*, &c., § VI.; *Licensed Boarding Houses*, § VII.; *Attendance and Conduct*, § VIII.; *Library*, § IX.; *Peter Redpath Museum*, § X.; *Fees*, &c., § XI., *Courses of Lectures*, § XII.]

The next Session of this Faculty will begin on September 14th, 1885, and will extend to April 30th, 1886.

§ I. MATRICULATION AND ADMISSION.

1. UNDERGRADUATES.—Candidates for Matriculation as Undergraduates are required to present themselves to the Vice-Dean of the Faculty on the 15th of September, for examination; they may, however, enter after the beginning of the Session, if, on examination, found qualified to join the classes.

(*a*) The subjects of examination for entrance into the First Year are Classics, Mathematics and English.

Examination for Entrance into the First Year.

In Classics.—Greek.—Xenophon, Anabasis, Book I.; or, Homer, Iliad, Book I.; Greek Grammar.

Latin.—Cicero, Orations I. and II. against Catiline; or, Virgil, Æneid, Book I.; Latin Grammar.

In Mathematics.—Arithmetic; Algebra, to Simple Equations, inclusive; Euclid's Elements, Books, I., II., III.

In English.—Writing from Dictation. A paper on English Grammar *including Analysis*. A paper on the leading events of English History.

An equivalent amount of other books or other authors in Latin and Greek than those named may be accepted by the Examiners.

[Associates in Arts who, at their special Examination, have passed in Latin, Greek, Algebra and Geometry, are not required to present themselves for the Matriculation Examination.]

An *Advanced Examination* in any one or more of the subjects of the First Year will be held for such of the candidates as desire it. Candidates who pass creditably in this will be entitled to such exemption from the Lectures and from the Christmas Examinations of the First Year as the Faculty may determine. For the Advanced Examination in Classics two authors in Latin and two in Greek will be required, and the books fixed (see below) must be taken.

Candidates for the Advanced Examination must send notice to the Vice-Dean of their intention before the day of Examination, stating the subjects of the First Year and the extent of reading in each they purpose to submit.

Partial or Occasional Students (see below) in the First Year, who pass the April Sessional Examinations in one or more subjects, will, if Candidates for Undergraduate standing in the First Year in the following September, be allowed to count these as Advanced Examinations under the above rule.

The *Courses in some of the subjects for Advanced Matriculation* are as follows:—

Classics.

Greek.—Xenophon, Anabasis, Book I.; Homer, Iliad, Book VI.

Latin.—Cicero, Orations I. and II. against Catiline; Virgil, Æneid, Book II.

A paper on Greek and Latin Grammar, and Latin Prose Composition (Textbook, Smith's Principia Latina, Part IV.)

Mathematics.

Candidates who pass a satisfactory Examination in the Arithmetic and Euclid of the First Year (see course for entrance into Second Year) will be exempt from lectures up to Christmas and from the Christmas Examination.

Candidates who, in addition to the above, pass a satisfactory Examination in Algebra and Trigonometry, will be exempt from ectures altogether in these subjects in the First Year.

Candidates who pass a satisfactory Examination on Morley's First Sketch of English Literature, Celtic period to Elizabethan period (inclusive), will be exempted from the lectures on Literature during the First Year.

(*b*) Candidates not matriculated in the University, or Partial Students of the First Year, may be admitted to the standing of students of the Second Year, provided that they pass the Sessional Examinations of the First Year, or an Examination in the following subjects at the beginning of the Second Year :—

Examination for Entrance into the Second Year.

In Classics.—Greek.—Homer, Iliad, Book VI. ; Xenophon, Anabasis, Book I. ; Grammar and Prose Composition.

Latin.—Virgil, Æneid, Book VI. ; Cicero, Orations IV. against Catiline ; Grammar and Prose Composition.

[An equivalent amount of other books or other authors in Latin and Greek than those named above may be accepted by the Examiners for entrance into the Second Year.]

In Mathematics.—

Euclid.—Books I., II., III., IV., VI., with defs. of Book V. (omitting Propositions 27, 28, 29, of Book VI.)

Algebra.—To end of Quadratic equations. (Colenso's Alg.)

Trigonometry.—Galbraith and Haughton's Trigonometry, Chaps. 1, 2, 3, 4, 6, to beginning of numerical solution of plane triangles.

Arithmetic.—Elementary rules, Proportion, Interest, Discount, &c., Vulgar and Decimal Fractions, Square Root.

In English Literature.—Writing from Dictation, English Grammar, including Analysis. English Composition, British History (Collier).

In French.—French Grammar ; or (instead of French) *German*—in which knowledge sufficient to enable the Candidate to join the regular class will be required.

In Chemistry.—The Chemistry of the non-metallic Elements, or of the more common metals.

[*Note.*—Candidates unable to pass in French or German are not excluded ; but they are required to begin German, and to continue the study of it for two years. Candidates unable to pass in Chemistry are required to attend such of the lectures in the subject as are open to them, and to pass an examination at the end of the Second Year.]

(*c*) *Students of other Universities* may be admitted, on the production of Certificates, to a like standing in this University, after examination by the Faculty.

2. PARTIAL STUDENTS.—Candidates for Matriculation as Partial Students, taking three or more Courses of Lectures, will be examined in the subjects necessary thereto, as may from time to time be determined by the Faculty.

3. OCCASIONAL STUDENTS.—Persons desirous of taking one or two Courses of Lectures, as Occasional Students, may apply to the Vice-Dean for entry in his Register, and may procure from the Secretary tickets for the Lectures they desire to attend.

Note.—Every Student is expected to present, on his entrance, a written intimation from his parent or guardian of the name of the minister of religion under whose care and instruction it is desired that the Student shall be placed, who will thereupon be invited to put himself in communication with the Faculty on the subject. Failing such intimation from his parent or guardian, the Faculty will endeavour to establish befitting relations.

---

§ II. SCHOLARSHIPS AND EXHIBITIONS.

GENERAL REGULATIONS.

1. A Scholarship is tenable for *two* years. An Exhibition for *one* year.

2. Scholarships are open for competition to Students who have passed the University Intermediate Examination, provided that not more than three Sessions have elapsed since their Matriculation; and also to Candidates who have obtained what the Faculty may deem equivalent standing in some other University, provided that application be made before the end of the Session preceding the Examination.

3. Scholarships are divided into two classes :—[1] *Science* Scholarships ; [2] *Classical and Modern Language* Scholarships. The subjects of Examination for each are as follows :—

Science Scholarships.—Differential and Integral Calculus ; Analytic Geometry ; Plane and Spherical Trigonometry ; Higher Algebra and Theory of Equations ; Botany ; Chemistry ; Logic. (For subdivision see below.)

Classical and Modern Language Scholarships.—Greek ; Latin ; English Composition ; English Language, Literature, and History ; French.

4. Exhibitions are assigned to the First and Second Years.

First Year Exhibitions are open for competition to candidates for entrance into the First Year.

Second Year Exhibitions are open for competition to Students who have passed the First Year Sessional Examinations, provided that not more than two Sessions have elapsed since their Matriculation ; and also to candidates for entrance into the Second Year.

The subjects of Examination are as follows :—

First Year Exhibitions.—Classics, Mathematics, English.

Second Year Exhibitions.—Classics, Mathematics, English Language and Literature, Chemistry, French.

5. The First and Second Year Exhibition Examinations will, for Candidates who have not previously entered the University, be regarded as Matriculation Examinations.

6. No student can hold more than one Exhibition or Scholarship at the same time ; but four of the first Year Exhibitioners will be granted exemption from the Sessional fees throughout their College Course, under Presentation Scholarships from the Governor General. (See below.)

7. Exhibitions and Scholarships will not necessarily be awarded to the best answerers at the Examinations. Absolute merit will be required.

8. If in any one College Year there be not a sufficient number of Candidates showing absolute merit, any one or more of the Exhibitions or Scholarships offered for competition may be transferred to more deserving Candidates in another year.

9. A successful Candidate must, in order to retain his Scholarship or Exhibition, proceed regularly with his College Course to the satisfaction of the Faculty.

10. The annual income of the Scholarships or Exhibitions will be paid in four instalments, viz. :—In October, December, February and April, about the 20th day of each month.

11. The Examinations will be held at the beginning of every Session.

There are at present fifteen Scholarships and Exhibitions :—

THE JANE REDPATH EXHIBITION, founded by Mrs. Redpath, of Terrace Bank, Montreal :—value $100 yearly, open to both men and women.

THE MCDONALD SCHOLARSHIPS AND EXHIBITIONS, ten in number, founded by W. C. McDonald, Esq., Montreal :—value, $125 each, yearly.

THE CHARLES ALEXANDER SCHOLARSHIP, founded by Charles Alexander, Esq. Montreal, for the encouragement of the study of Classics and other subjects: — value, $120 yearly.

THE GEORGE HAGUE EXHIBITION, given by George Hague, Esq., Montreal :—for the encouragement of the study of Classics, value $125 yearly.

THE MAJOR H. MILLS SCHOLARSHIP, founded by bequest of the late Major Hiram Mills :—value $100 yearly.

AN EXHIBITION OR SCHOLARSHIP, given by Dr. Johnson, to be awarded in September, 1885, value, $100 or $125, according to report of Examiners.

EXHIBITIONS AND SCHOLARSHIPS OFFERED FOR COMPETITION AT THE OPENING OF THE SESSION, SEPT., 1885.

To Students entering the First Year, Two Exhibitions of $125, *and one of* $100; the latter open to both men and women.

Subjects of Examination :—

Greek.—Homer, Iliad, bk. IV.; Xenophon, Anabasis, bk. V.; Demosthenes, Aphobus, I. and II.

Latin.—Cicero, Cato Major; Virgil, Æneid, bk. I., vss. 1-304; Livy, bk. IX., Chaps. 1-19.

A paper on Greek and Latin Grammar.

Text-Books.—Hadley's Elements of Greek Grammar. Arnold's Greek Prose Composition, Exercises 1 to 25. Dr. Wm. Smith's Smaller Latin Grammar, and Principia Latina, Part IV.

Mathematics.—Euclid, bks. I., II., III., IV.; Algebra to end of Harmonical Progression (Colenso); Arithmetic.

English.—English Grammar and Composition.—(Bain's Grammar as far as Derivation.) Special exercises in Grammar and Composition.

The First Year Exhibitions will be awarded to the best answerers in the above course, provided there be absolute merit.

But in subsequently distributing the Exhibitions of higher value among the successful candidates, answering in the following subjects will be taken into account also :—

1. A re-translation into Latin of an English version of some passage from one of the easier Latin Prose writers (for specimens see Smith's Principia Latina, Part V).

2. Euclid, Book VI. (omitting Props. 27, 28, 29), with Defs. of Book V.

3. English :—An Examination upon one of Shakespeare's plays. For 1885 —Coriolanus.

To Students entering the Second Year, Two Exhibitions of $125, *and one of* $100.

Subjects of Examination :—

Greek.—Homer, Iliad, bk. XXII.; Xenophon, Hellenics, bk. I.; Herodotus, bk. III., Chaps. 1 to 67.

Latin.—Virgil, Æneid, bk. VI.; Horace, Odes, bk. I.; Livy, bk. XXII., Chaps. 1-23; Cicero, Select Letters (Pritchard and Bernard).

Greek and Latin Prose Composition.

A paper on Grammar and History.

Text-Books.—Dr. William Smith's History of Greece. Liddell's History of Rome. Hadley's Greek Grammar. Smith's Student's Latin Grammar. Arnold's Greek Prose Composition. Smith's Principia Latina, Parts IV and V.

Mathematics.—The Mathematics (Ordinary and Honour) of First Year.

English Literature.—Bain's Grammar. Shakespeare, *As You Like it.* Trench, *Study of Words.*

Chemistry.—Nichol's abridgment of Eliot and Storer's Manual as far as p. 208.

French.—Darey, Principes de Grammaire française. Lafontaine, les Fables, livres V. and VI. Molière, les Fourberies de Scapin.

To Students entering the Third Year, Three Scholarships of $125, *one of* $120, *and one of* $100 *or* $125, *tenable for Two Years.*

Two of these are offered in Mathematics and Logic, and one in Natural Science and Logic, as follows:—

1. *Mathematics.*—Differential Calculus (Williamson, Chaps. 1, 2, 3, 4, 7, 9; Chap. 12, Arts. 168-193 inclusive; Chap. 17, Arts. 225-243 inclusive). Integral Calculus (Williamson, Chaps. 1, 2, 3, 4, 5; Chap. 7, Arts. 126-140 inclusive; Chap. 8, Arts. 150-156 inclusive; Chap. 9, Arts. 168-176 inclusive). Analytic Geometry (Salmon's Conic Sections, subjects of Chaps. 1-13 (omitting Chap. 8), with part of Chap. 14. Hind's Plane and Spherical Trigonometry. Salmon's Modern Higher Algebra (first four chapters). Todhunter's Theory of Equations (selected course).

   Logic, as in Jevons' Elementary Lessons on Logic.

2. *Natural Science.*—*Botany*, as in Gray's Structural and Systematic Botany. *Canadian Botany*, including a practical acquaintance with all the orders of Phænogams and Acrogens. *Chemistry*, Nichol's abridgment of Eliot and Storer's Manual of Chemistry.

   Logic, as in Jevons' Elementary Lessons on Logic.

Two will be given on an Examination in Classics and Modern Languages, as follows:—

Classics.—*Greek.*—Euripides, Medea; Demosthenes, the Olynthiacs; Xenophon, Hellenics, Book I.; Herodotus, Book VIII.; Thucydides, Book VI. *Latin.*—Horace, Satires, Book I., and Epistles, Book I.; Virgil, Georgics, Book I.; Terence, Adelphi; Tacitus, Annals, Book I.; Pliny, Select Letters (Pritchard and Bernard; Clarendon Press Series). Greek and Latin Prose Composition.

History.—*Text-books.*—Rawlinson's Manual of Ancient History; Smith's Student's Greece; Liddell's Rome.

English Language and Literature.—Spalding's English Literature (Chap. VI., Part III., to end of book); Shakespeare, Tempest; Milton, Paradise Lost, books I. and II.; Trench, Study of Words.

English Composition.—(High marks will be given for this subject, in order to encourage the practice of it, after the models of the best writers.)

French.—Racine, Britannicus; Molière, les Femmes savantes. French Grammar. Les Ecrivains célèbres de la France :—Bonnefon. Translation from English into French.

Classical Subjects for Exhibitions, September, 1886.

GREEK.—*First Year.*

Homer, Iliad, bk. VI.; Xenophon, Anabasis, bk. V.; Demosthenes, Aphobus, I. and II.

LATIN.—*First Year.*

Cicero, In Catilinam, Oratt. I. and II.; Virgil, Æneid, bk. I., vss. 1-304; Cæsar, Bellum Britannicum.

GREEK.—*Second Year.*

Homer, Odyssey bk. XXI; Herodotus, bk. III., Chaps. 1 to 67; Demosthenes, Olynthiacs I. and II.

LATIN.—*Second Year.*

Virgil, Æneid, bk. VI.; Horace, Odes, bk. I.; Livy, bk. XXII. Chaps. 1-23; Cicero, In Caecilium.

English Subjects for Exhibitions, etc., September, 1886.

First Year.—English Grammar and Composition. (Mason's Grammar, omit Derivation and Appendix). Shakespeare, *Coriolanus.*

Second Year.—Mason's Grammar.—Shakespeare, *As You Like It.* Trench, *Study of Words.*

Third Year.—Spalding's English Literature (cap. VI., Part III., to end of book.) Shakespeare, *Tempest.* Milton, *Paradise Lost,* books I and II. Trench, *Study of Words.*

EXEMPTIONS FROM FEES UNDER PRESENTATION SCHOLARSHIPS, &c.

A number of these are in the gift of Benefactors, and entitle the Students holding them to exemption from the Sessional Fees in the Faculty of Arts. Sixteen have been placed by the Governors at the disposal of His Excellency the Governor General. Candidates must pass the usual Matriculation Examination.

[By command of His Excellency, four of these Exemptions will be offered for competition in the First Year Exhibition Examinations of the ensuing session.]

Eight exemptions from fees may be granted by the Board of Governors, from time to time to the most successful students who may present themselves as candidates. By order of the Board one of these is given annually to the *Dux* of the High School of Montreal, and one to the Dux of any other Academy or High School sending up, in one year, three or more candidates competent to pass creditably the Matriculation Examination.

In the event of any Academy or High School in the Province of Quebec offering for competition among pupils an Annual Bursary in the Faculty of Arts, of not less than $80, the Governors will add the amount of the fees of tuition thereto.

An Exemption from fees may be given annually to any teacher holding the Model School or Academy Diploma of the McGill Normal School, recommended by the Principal and Professors of the School, and passing creditably the Matriculation Examination in Arts.

§ III. COURSE OF STUDY.

1. Undergraduates are arranged according to their standing, as Students of the First, Second, Third or Fourth Year. They are required to attend all the courses of Lectures and pass the examinations appointed for their several years, under the Regulations of the Faculty as to attendance and conduct: the only exceptions are those in favour of Honour and Professional Students, stated in § V.

ORDINARY COURSE FOR THE DEGREE OF B.A.

First Year.—Classics; French or German; English Grammar and Literature; Pure Mathematics; Elementary Chemistry.

Second Year.—Classics; French or German; English Literature; Elementary Psychology and Logic; Pure Mathematics; Botany.

Third Year.—Latin or Greek; Mathematical Physics (Mechanics and Hydrostatics); any two of the following departments—French or German (whichever the Student has taken in the first two years); Experimental Physics*; Zoology; English and Rhetoric; together with one *Additional Department*, for which see below.

Fourth Year.—Latin or Greek (same language as in Third Year); Mathematical Physics (as in Third Year, or Astronomy and Optics); Mental and Moral Philosophy; any two of the following departments—French or German (same language as in previous years); Experimental Physics*; Geology; History; and one *Additional Department* (the same as chosen in the Third Year), for which see below.

* Students claiming exemptions (see § V) cannot take Experimental Physics if they have not taken the Third Year Mathematical Physics.

(N.B. The *Additional Departments* referred to above, of which one must be selected, the same department being taken in both the third and fourth years, are

as follows, viz. :—(1) Classics, including Latin and Greek. (2) Mathematical Physics. including Optics with Astronomy. (3) Natural Science, viz., any two of the three following subjects :—(*a*) Theoretical and Practical Chemistry. (*b*). Geology. (*c*). Botany. (4) Mental and Moral Philosophy. (5) English with History (6) One Modern Language (or Hebrew).

A Student cannot, in general, take the "Additional" Department in any subject unless he takes the "Ordinary" Department in the same subject ; but in the Third Year, a Student taking English and Rhetoric may take either English or Mental and Moral Philosophy as his "Additional" Department.

Undergraduates are required to study either French or German for two years (viz., in the First and Second Years), taking the same language in each year. Any Student failing to pass the Examination at the end of the Second Year will be required to pass a Supplemental Examination, or to take an additional Session in the Language in which he has failed. In addition to the obligatory, there are other lectures, attendance on which is optional.

Students who intend to join any Theological School, on giving written notice to this effect at the beginning of the First Year, may take Hebrew instead of French or German.

Undergraduates who have been previously Partial or Occasional Students, and have in that capacity attended a particular Course or Courses of Lectures may, at the discretion of the Faculty, be exempted from further attendance on these Lectures, but no distinction shall in consequence be made between the Examinations of such Undergraduates and of those regularly attending Lectures.

2. At the Examination for the Degree of B.A., Honours are given in the following subjects, for which special Honour Courses are provided :—[For details see under § XII.]

1. *Classical Languages and Literature.*
2. *Mathematics and Physics.*
3. *Mental and Moral Philosophy.*
4. *English Language, Literature and History.*
5. *Geology and other Natural Sciences.*
6. *Modern Languages with History* (*Lansdowne Medal Course*).

Honours are given in the above subjects in the Third Year also, and in Mathematics in the First and Second Years.

Candidates for Honours are allowed exemptions under conditions stated in §V.

§ IV. EXAMINATIONS.

COLLEGE EXAMINATIONS

For Students of McGill College only.

1. There are two Examinations in each year: one at Christmas and the other at the end of the Session. In each of these the students who pass are arranged according to their answering as 1st Class, 2nd Class, and 3rd Class.

In the Fourth Year only, the University Examination for B.A. takes the place of the Sessional Examination.

2. Students who fail in any subject in the Christmas Examinations are required to pass a Supplemental Examination in that subject before admission to the Sessional Examinations.

3. Students who fail in one subject in the Sessional Examinations of the first two years are required to pass a Supplemental Examination in it. Should they fail in this, they will be required in the following Session to attend the Lectures and pass the Examination in the subject in which they have failed, in addition to those of the Ordinary Course, or to pass the Examination alone without attending Lectures, at the discretion of the Faculty.

4. Failure in two or more subjects at the Sessional Examinations of the first two years, or in one subject in the Third Year Sessional examinations, involves the loss of the Session. The Faculty may permit the Student to recover his standing by passing a Supplemental Examination at the beginning of the ensuing Session. For the purpose of this Regulation, Classics and Mathematics are each regarded as two subjects.

5. The time for the Supplemental Examination will be fixed by the Faculty; and such Examination will not be granted at any other time, except by special permission of the Faculty, and on payment of a fee of $5.

UNIVERSITY EXAMINATIONS.

For Students of McGill College and of Colleges affiliated in Arts.

1. FOR THE DEGREE OF B.A.

There are three University Examinations:—The *Matriculation* at entrance; the *Intermediate*, at the end of the Second Year; and the *Final*, at the end of the Fourth Year.

1. The subjects of the Matriculation Examination are stated in Section I.

2. In the Intermediate Examination the subjects are Classics and Pure Mathematics, Logic and the English Language, with one other Modern Language, or Botany. Theological Students are allowed to take Hebrew instead of a Modern Language. The subjects for the Examination of 1885 are as follows :—

Classics.—Greek.—Isocrates.—Panegyricus.
Latin.—Horace.—Epistles, Book I.
Latin Prose Composition.

Mathematics. Arithmetic.
Euclid, Books I., II., III., IV., VI., and defs. of Book V.
Algebra, to Quadratic Equations, inclusive.
Trigonometry, including use of Logarithms.

Logic.—Jevons' Elementary Lessons in Logic.

English.—Spalding's History of English Literature or Lectures (see course). A paper on the essentials of British History (Collier).

With one of the following :—

1. *Botany and Vegetable Physiology.*—Structural and Systematic Botany, as in Gray's Text-Book, omitting the Descriptions of the Orders.
2. *French.*—C. Delavigne :—Les Enfants d'Edouard. Racine :—Phèdre. Les Ecrivains célèbres de la France :—XVI. and XVII. cent. Translation into French :—Rasselas.
   Grammatical questions.
3. *German.*—Schmidt's German Guide ; Adler's Reader (selections from secs. 3 and 4) ; Translation into German.
4. *Hebrew.*—Grammar. Translation from Genesis, chap. I. ; Exodus, chap. XX. ; Deuteronomy, chap. XXXII.—Exercises :—Hebrew into English, and English into Hebrew.

3. For the Final Examination the subjects are those appointed as compulsory in the Third and Fourth Years, viz. ; Latin or Greek ; Mathematical Physics (Mechanics and Hydrostatics) or Astronomy and Optics; Mental and Moral Philosophy ; and those departments (two "Ordinary" and one "Additional") which the Candidate may have selected for himself in the Third and Fourth Years. See § III.

The subjects in detail for 1885 are as follows :—

Classics.

1. *Greek.*—Demosthenes, The Olynthiacs ; Æschylus, Prometheus Vinctus. Greek History. (Or Latin as follows) :—
2. *Latin.*—Tacitus, Annals, Book I. ; Juvenal, Satires VIII. and X. Roman History.

*In Classics Greek may be reckoned as the Additional Dep by students taking Latin as their Ordinary subject, and, vice versa, Latin by students taking Greek.

Mathematical Physics.

1. Mechanics and Hydrostatics, as in Galbraith & Haughton's text-books.
2. Optics and Astronomy.

*Astronomy and Optics may be reckoned as the Additional Department by Students taking Mechanics and Hydrostatics as their ordinary subjects, and vice versa, Mechanics and Hydrostatics by Students taking Astronomy and Optics.

Mental and Moral Philosophy.

Calderwood's Handbook of Moral Philosophy (omitting the Historical Sketch, pp. 43-76), and Rogers' Manual of Political Economy.

* Lectures, with Schwegler's History of Philosophy, Chaps. 23-45 (inclusive), and Lorimer's Institutes of Law.

Natural Science.

Mineralogy and Geology, as in Dana's Manual and Dawson's Lecture Notes.

* Advanced Mineralogy and Lithology, with Geology of Canada or Practical Chemistry as in § XII.

Experimental Physics.

1. *Heat and Light.*

* *Electricity, Magnetism and Sound* (see Courses of Lectures § XII).

History.

Freeman :—General sketch of European History ; Bryce's Holy Roman Empire (omit Chaps. VI., VIII., IX., XIII., and Supplementary Chapter)

* As in § XII.

French.

The Course of French for the Fourth Year:

* The subject of the Additional Department as in § IX.

German.

The Course of German for the Fourth Year.

*Additional Department as in § XII.

Hebrew. (Theological Students only).

Hebrew Grammar ; Translation from Isaiah, Chaps. I., VII., LIII., LV. Psalms I., XLII., LI., LV., CIII.—Reading of the Masoretic Notes.
* The Chaldee and Syriac Languages as in § XII.

* Additional Departments, one of which is to be selected by each candidate.

For details of each subject, see Courses of Lectures, § XII.

At the B.A Ordinary Examination of those Candidates who obtain the required aggregate of marks, only those who pass in the First Class in three of the Departments and not less than Second Class in the remainder, shall be entitled to be placed in the First Class for the Ordinary Degree.

II. FOR THE DEGREE OF M.A.

1. Candidates are required to prepare and submit to the Faculty of Arts, not less than two months before proceeding to the degree, a Thesis on some Literary or Scientific subject previously approved by the Faculty.

The last day in the session of 1885-6 *for sending in Theses for M.A. will be Jan 30th,* .

2. All candidates, except those who have taken First Rank B.A. Honours, or have passed First Class in the Ordinary Examinations for the Degree of B. A., are required to pass an examination also, either in Literature or in Science, as each candidate may select.

(*a*) The subjects of the Examination in *Literature* are divided into two groups :—

A.—1. Latin, 2. Greek. 3. Hebrew.

B. 1. French. 2. German. 3. English.

(*b*) The subjects for the Examination in *Science* are divided into three groups :—

A.—1. Pure Mathematics (Advanced or Ordinary.) 2. Mechanics (including Hydrostatics.) 3. Astronomy. 4. Optics.

B.—1. Geology and Mineralogy. 2. Botany. 3. Zoology. 4. Chemistry.

C.—1. Mental Philosophy. 2. Moral Philosophy. 3. Logic. 4. History of Philosophy.

(*c*) Every Candidate in Literature is required to select two subjects out of one group in the Literary section, and one out of the

other group in the same section for the Examination. Every Candidate in Science is required to select two out of the three groups in the Scientific section; and in one of the groups so chosen to select two subjects, and in the other group one subject for Examination.

(*d*) One of the subjects selected as above will be considered the principal subject, and the other two as subordinate subjects.

For further details of the Examination application must be made to the Faculty before the above date. For fees see § XI.

III. DEGREE OF LL.D.

Every Candidate for the Degree of LL.D. in Course is required to prepare and submit to the Faculty of Arts, not less than three months before proceeding to the degree, twenty-five printed copies of a Thesis on some Literary or Scientific subject previously approved by the Faculty, and possessing such a degree of Literary or Scientific merit, and evidencing such originality of thought or extent of research as shall, in the opinion of the Faculty, justify it in recommending him for that degree.

Every Candidate for the Degree of LL.D. in Course is required to submit to the Faculty of Arts, with his Thesis, a list of books, treating of some one branch of Literature or of Science, satisfactory to the Faculty, in which he is prepared to submit to examination, and on which he shall be examined, unless otherwise ordered by vote of the Faculty. For Fees see § XI.

---

§ V. SPECIAL PROVISIONS FOR CANDIDATES FOR HONOURS AND FOR PROFESSIONAL STUDENTS.

I. Candidates for Honours in the Second Year.

Candidates for Honours in the Second Year who have obtained Honours in the First Year may omit the lectures and examinations in either a Modern Language (or Hebrew) or Botany, giving notice of the subject at the beginning of the session.

II Candidates for Honours in the Third Year.

The following are the "Ordinary" Departments of the Third Year, the study of four of which is, in general, compulsory (see § III.);—Latin or Greek; French

or German (or Hebrew) ; Mechanics and Hydrostatics ; Experimental Physics* ; Zoology ; English Literature and Rhetoric.

Every Candidate for Honours in the Third Year must, in order to obtain exemptions, have passed the Intermediate Examination, and must in the Sessional Examination of the Second Year have taken first class in the subject in which he proposes to compete for Honours ; such candidates shall be entitled in the Third Year to exemption from lectures and examinations in any one of the four "Ordinary" departments required by the general rule, except that in which he is a Candidate for Honours. A Candidate for Honours in the Third Year who has failed to obtain Honours shall be required to take the same examinations for B.A. as the ordinary undergraduates.

III. Candidates for B.A. Honours.

The following are the "Ordinary" Departments of the Fourth Year, in which courses of lectures are delivered : attendance on four of these courses, in distinct departments, is in general required :—Latin or Greek ; Astronomy and Optics ; French or German or Spanish (or Hebrew) ; Mental and Moral Philosophy ; Experimental Physics* ; Geology and Mineralogy ; History.

A Student who has taken Honours of the first rank in the Third Year and desires to be a Candidate for B.A. Honours, shall be required to attend two only of the above courses of lectures, and to pass the two corresponding examinations only at the ordinary B.A. Examination. The "Additional Department" required for the ordinary B.A. (see § IV.) forms part of the Honour course. A Student who has taken Second Rank Honours in the Third Year and desires to be a Candidate for B.A. Honours in the same subject shall be allowed to continue in the Fourth Year the study of the same departments that he has taken in the Third Year, but shall be required to take the same number of departments as in the Ordinary Course.

IV. Professional Students.

Students of the Third and Fourth Years, matriculated in the Faculties of Law, Medicine or Applied Science of the University, or in any affiliated Theological College, are entitled to exemption from the Additional Department or any one of the Ordinary Departments required in the Third and Fourth years. (For rule concerning "Special Certificates" see § VI.)

To be allowed these privileges in either year they must give notice at the commencement of the Session to the Dean of the Faculty of their intention to claim exemptions as Professional Students, and must produce at the end of the Session certificates of attendance on a full course of Professional Lectures during the year for which the exemptions are claimed.

V. Students of Affiliated Theological Colleges.

1. Such Students, whether entered as Matriculated or Occasional, are subject to the regulations of the Faculty of Arts in the same manner as other students.

2. The Faculty will make formal reports to the Governing body of the Theological College to which any such Students may belong, as to :—[1] their conduct and attendance on the classes of the Faculty ; and [2] their standing in the several examinations ; such reports to be furnished after the Christmas and Sessional Examinations severally, if called for.

3. Matriculated Students are allowed no exemptions in the course for the degree of B. A. until they have passed the Intermediate Examination ; but they may take Hebrew in the First and Second Years, instead of French and German.

4. In the Third and Fourth Years they are allowed exemptions, as stated above.

* Any Student who, under any of the above rules, desires to take Experimental Physics, is required to take Mechanics and Hydrostatics also, in the Third Year.

§ VI. MEDALS, HONOURS, PRIZES AND CLASSING.

1. GOLD MEDALS will be awarded in the B.A. Honour Examinations to Students who take the highest Honours of the First Rank in the subject stated below, and who shall have passed creditably the Ordinary Examinations for the Degree of B.A., provided they have been recommended therefor to the Corporation by the Faculty, in the report of the Examiners :—

The *Henry Chapman Gold Medal*, for the Classical Languages and Literature.

The *Prince of Wales Gold Medal*, for Mental and Moral Philosophy.

The *Anne Molson Gold Medal*, for Mathematics and Natural Philosophy.

The *Shakespeare Gold Medal*, for the English Language, Literature and History.

The *Logan Gold Medal*, for Geology and other Natural Sciences.

The *Major Hiram Mills Gold Medal*, for a subject to be chosen by the Faculty from year to year.

In the event of there being no Candidate for any Medal, or of none of the Candidates fulfilling the required conditions, the Medal will be withheld, and the proceeds of its endowment for the year may be devoted to prizes in the subjects for which the Medal was intended. For details, see announcements of the several subjects below.

2. HONOURS, of First or Second Rank, will be awarded to those Matriculated Students who have successfully passed the Examinations in any Honour Course established by the Faculty (*N.B.—The Honour Course includes the Additional Department in each subject*), and have also passed creditably the ordinary Examinations in all the subjects proper to their year.

(*N.B.—By an Order of the Lieutenant-Governor of Ontario in Council, Honours in this University confer the same privileges in Ontario as Honours in the Universities of that Province, as regards certificates of eligibility for the duties of Public School Inspectors, and as regards exemption from the non-professional Examination of Teachers for First-Class Certificates for Grades "A and B."*)

3. SPECIAL CERTIFICATES will be given to those candidates for B.A. who shall have been placed in the First Class at the ordinary B.A. Examination. At this examination no candidate who has taken exemptions (see § V.) can be placed in the First Class unless he has obtained First Class in each of the departments in which he has been examined.

4. CERTIFICATES of High General Standing will be granted to those Matriculated Students who are placed in the First Class in the aggregate of the Studies proper to their year.

5. PRIZES OR CERTIFICATES to those Matriculated Students who may have distinguished themselves in the studies of a particular class, and have attended all the other classes proper to their year.

6. His Excellency the MARQUIS OF LANSDOWNE has been pleased to offer a GOLD MEDAL for the encouragement of the study of Modern Languages and Literature, with History, or for First Rank General Standing, as may be announced.

The Regulations for the former are as follows :—

1. The Subjects for competition shall be French and German, together with the History part of the present Honour Course for the Shakespeare Medal.

2. The course of study shall extend over two years, viz., the Third and Fourth years.

3. The successful Candidate must be capable of speaking and writing both languages correctly.

4. There shall be examinations in the subjects of the course in both the Third and Fourth years, at which Honours may be awarded to deserving Candidates.

5. The general conditions of competition, and the privileges as regards exemptions, shall be the same as for the other Gold Medals in the Faculty of Arts

6. Students from other Faculties shall be allowed to compete, provided they pass the examinations of the Third and Fourth Years in the above subjects.

7. Candidates desiring to enter on the Third Year of the Course, who have not obtained First Class standing at the Intermediate or Sessional Examinations of the Second Year in Arts, are required to pass an examination in the work of the first two years of the course in Modern Languages, if called on to do so by the Professors.

8. The subjects of Examination shall be as follows :—

I. FRENCH.—*Third Year.*

Racine :—Phèdre ; Les Plaideurs.
Boileau :—L'Art Poétique.
Pascal :—Les Pensées.
La Bruyère :—Les Caractères.
Ampère :—Formation de la Langue francaise.

In addition to the ordinary and additional course as stated in the Calendar.

Fourth Year.

Molière :—Le Misanthrope.
Corneille :—Cinna.
La Rochefoucauld :—Les Maximes.
Montaigne :—Les Essais.
Auguste Brachet :—Grammaire historique.
Etudes des Anciens textes francais (Demogeot).

In addition to the ordinary and additional course as stated in the Calendar

II. GERMAN.—*Third Year.*

Wieland,—Oberon.

Schleicher:—Die Deutsche Sprache (History of the German Language.)

History of German Literature from 1750, being a critical review of the principal writers of the classical period. The men of 'Sturm und Drang.' The Romantic Schools. Modern Lyric Poets. (Gostwick and Harrison's Outlines.)

With the Ordinary and Additional Course prescribed for this year.

Fourth Year.

A special study of Goethe's 'Faust' (Part I.)

Selections from Heine's Lyrical Poems.

Schleicher,—Die Deutsche Sprache.

German Literature from 1150 to 1350 :—Mediæval classic writers—Epic, Lyric and Didactic Poetry—(Kurz, Leitfaden zur Geschichte der deutchen Literatur).

With the Ordinary and Additional Course prescribed for this year (excepting 'Moschzisker').

III. HISTORY.—(*See Honour Course for Shakespeare Medal.*)

The competitive Examination of the Fourth Year will include the work of both the Third and Fourth Years.

The Regulations for the Gold Medal to be awarded for first Rank General Standing, are as follows :—

1. The successful candidate must take no exemptions or substitutions of any kind, whether Professional or Honour, in the Ordinary B. A. Examination.

2. He shall be examined in the following subjects :—

(*a*) *Classics* (both languages); (*b*) *Mixed Mathematics* (both divisions); (*c*) *Mental and Moral Philosophy ;* and any *two* of the following subjects, or any *one* of them with its Additional Department :—(*d*) Natural Science, (*e*) Experimental Physics, (*f*) English and History, (*g*) French, (*h*) German.

3. His answering must satisfy special requirements laid down by the Faculty.

4. The same candidate cannot obtain the Gold Medal for First Rank General Standing, and also a Gold Medal for First Rank Honours.

7. THE NEIL STEWART PRIZE of $20 is open to all Undergraduates of this, and also to Graduates of this or any other University, studying Theology in any College affiliated to this University, under the following rules :—

1. The prize will not be given for less than a through examination in Hebrew Grammar passed in the First Class, in reading and translating the Pentateuch and such poetic portions of the Scripture as may be determined.

2. In case competitors should fail to attain the above standard the prize will be withheld, and a prize of Forty Dollars will be offered in the following year for the same.

[Course for the present year :—Hebrew Grammar (Gesenius); Translation and analysis of the first ten chapters of Genesis ; the Prophet Habakkuk (the whole book); and the first five Psalms.]

3. There will be two Examinations of three hours each ; one in Grammar and the other in Translation and Analysis.

The Prize, founded by the late Rev. C. C. Stewart, M.A., and terminated by his death, was re-established by the liberality of the late Neil Stewart, Esq., of Vankleek Hill, and will be offered for competition next Session.

8. (*a*) EARLY ENGLISH TEXT SOCIETY'S PRIZE.—This Prize, the annual gift of the Early English Text Society, will be awarded for proficiency in (1) Anglo-Saxon, (2) Early English before Chaucer.

The subjects of Examination will be :—

(1) *The Lectures of the Third and Fourth Years on Anglo-Saxon*

2. *Specimens of Early English (Clarendon Press Series, ed. Morris and Skeat,) Part II., A.D,* 1298—*A.D.* 1393. *The Lay of Havelok the Dane (Early English Text Society ed. Skeat).*

(*b*) NEW SHAKESPEARE SOCIETY'S PRIZE. This Prize, the annual gift of the New Shakespeare Society, will be awarded for a critical knowledge of the following plays of Shakespeare:—

Hamlet; Macbeth; Othello; King Lear.

9. The names of those who have taken Honours, Certificates, or Prizes will be published in order of merit; with mention, in the case of Students of the First and Second Years, of the Schools in which their preliminary education has been received.

---

§ VII. LICENSED BOARDING-HOUSES.

(*Regulations for Students in Arts, passed by the Corporation, April*, 1875.)

1. All Students under 21 years of age, not residing with parents or guardians, nor belonging to a Theological College, shall reside in licensed boarding-houses, unless they produce written authority from parents or guardians to reside elsewhere.

2. Persons applying for a license to keep a boarding-houses shall produce evidence satisfactory to the Principal as to their character and fitness, and the suitability of the house for the health and comfort of the Students. They shall also supply him with a statement of charges.

3. The keeper of the boarding-house shall report immediately to the Principal the entrance or departure of any Student, and any instance of immorality or disorderly conduct.

---

§ VIII. ATTENDANCE AND CONDUCT.

All Students shall be subject to the following regulations for attendance and conduct:—

1. A Class-book shall be kept by each Professor and Lecturer, in which the presence or absence of Students shall be carefully noted; and the said Class-book shall be submitted to the Faculty at all their ordinary meetings during the Session.

2. Each Professor shall call the roll immediately at the beginning of a lecture. Credit for attendance on any lecture may be refused on the grounds of lateness, inattention or neglect of study, or disorderly conduct in the Class-room. In the case last mentioned the Student may, at the discretion of the Professor, be required

to leave the Class-room. Persistence in any of the above offences against discipline, after admonition by the Professor, shall be reported to the Dean of Faculty. The Dean may, at his discretion, reprimand the Student, or refer the matter to the Faculty at its next meeting, and may in the interval suspend from Classes.

3. Absence from any number of lectures can only be excused by necessity or duty, of which proof must be given, when called for, to the Faculty. The number of times of absence, from necessity or duty, that shall disqualify for the keeping of a Session, shall in each case be determined by the Faculty.

4. While in the College, or going to or from it, Students are expected to conduct themselves in the same orderly manner as in the Class-rooms. Any Professor observing improper conduct in the College buildings or grounds may admonish the Student, and, if necessary, report him to the Dean.

5. Every Student is required to attend regularly the religious services of the denomination to which he belongs, and to maintain, without as well as within the walls of the College, a good moral character.

6. When Students are brought before the Faculty under the above rules, the Faculty may reprimand, report to parents or guardians, impose fines, disqualify from competing for prizes and honours, suspend from Classes, or report to the Corporation for expulsion.

7. Any Student who does not report his residence on or before Nov. 1st in each year is liable to a fine of one dollar.

8. Any Student injuring the furniture or buildings will be required to repair the same at his own expense, and will, in addition, be subject to such other penalty as the Faculty may see fit to inflict.

9. All cases of discipline involving the interest of more than one Faculty, or of the University in general, shall be immediately reported to the Principal, or, in his absence, to the Vice-Principal.

[NOTE.—All Students are required to appear in Academic dress while in or about the College buildings.]

§ IX. LIBRARY.

Extracts from the Regulations.

1. The Books in the Library are classed in two divisions :—1st, Those which may be lent ; and, 2nd, those which may not, under any circumstances, be removed from the Library. The classification shall be determined by the Librarian.

2. Students in the Faculty of Arts or of Applied Science, who have paid the Library fee, may borrow books on depositing the sum of $5 with the Bursar, which deposit, after the deduction of any fines due, will be repaid at the end of the Session on the certificate of the Assistant Librarian that the books have been returned uninjured.

3. Students may borrow not more than three volumes at one time, except on the recommendation in writing of a Professor for specified books, and must return them within two weeks, on penalty of a fine of 5 cents a volume for each day of detention. An additional deposit of $4 entitles a student to borrow two extra volumes.

4. A Student incurring fines beyond the sum-total of $1 shall be debarred the use of the Library until they have been paid.

5. Any volume, or volumes, lost or damaged by any person shall be replaced, or paid for at such rates as the Library Committee may direct; and such rate of payment shall be determined by the value of the book itself, or of the set to which the volume belongs.

6. Graduates in any of the Faculties, on making a deposit of $5, are entitled to the use of the Library, subject to the same rules and conditions as Students; but they are not required to pay the Annual Library fee.

7. Members of the McGill College Book Club, on presenting annually a certificate of their membership, are by a special regulation of Corporation entitled to the use of the Library on the same conditions as Graduates, but they are not required to make a deposit.

8. Students in the Faculties of Law and Medicine, who have paid the Library fee to the Bursar, may read in the Library, and, on depositing the sum of $5, with the Bursar, may borrow books on the same conditions as Students in Arts. They are required to present their Matriculation Tickets to the Bursar and to the Librarian or Assistant Librarian.

9. Persons not connected with the College may consult Books in the Library on obtaining an order from any of the Governors, or from the Principal, or the Dean of the Faculty of Arts or of Applied Science, or from any of the Professors in the said Faculties. Donors of books or money to the amount of Fifty dollars may at any time consult books on application to the Librarian.

10. The Library is kept open from 9 a.m. to 4 p.m. daily, and no person shall be allowed in the Library except during these hours.

11. No person other than the Librarian and his assistants, is allowed to enter the alcoves, or to take down books from the shelves, except members of Corporation, and Professors, or those whom any of the above may accompany personally.

12. A person desiring to read or to borrow a book, which he has ascertained from the Catalogue to be in the Library, will fill up one of the blank forms provided for Readers and Borrowers respectively, and hand it to the Assistant Librarian who will thereupon procure him the book.

13. Readers must return the books they have obtained to the Assistant Librarian before leaving the Library.

14. No conversation is permitted in the Library

§ X. PETER REDPATH MUSEUM.

1. The Museum will be open every lawful day from 9 a.m. till 5 p.m., except when closed for any special reason by order of the Principal or Committee.

2. Students will obtain tickets of admission from the Principal on application.

3. Students will enter by the front door only, except when going to lectures.

4. Any Student wilfully defacing or injuring specimens, or removing the same, will be excluded from access to the Museum for the Session.

§ XI. FEES.

Matriculation Fee for the First Year (to be paid in the Year of Entrance only)	$4 00
For the Second Year (exigible from Students who enter in the Second Year, and also from those who have failed in the First Year and re-enter in the Second Year on Examination)	6 00
Sessional Fee	20 00
Library Fee	4 00
Gymnasium Fee	2 50

Undergraduates are required to pay all the above fees.

Partial Students, viz., those taking three or more Courses of Lectures, are required to pay the Matriculation, Library and Gymnasium Fees, and $5 for each Course which they attend, or $20 for all the courses.

Occasional Students taking one course of Lectures only, are required to pay $5 per Session for that course.

Occasional Students taking two courses of Lectures are required to pay the Library Fee and $5 for each course.

The Matriculation, Library, and Gymnasium Fees are exigible from Students holding exemptions from Sessional Fees.

Graduates in Arts are allowed to attend, without payment of fees, all lectures except those noted as requiring a special fee.

The fees must be paid to the Secretary and the tickets shown to the Vice-Dean within a fortnight after the commencement of attendance in each session. In case of default, the Student's name will be removed from the College books, and can be replaced thereon only by permission of the Faculty and on payment of a fine of $2.

[All fines are applied to the purchase of books for the Library.]

Fee for the Degree of B.A	$5 00
" " " *M.A*	10 00
" " " *LL.D*	50 00

If the Degree of M.A. be granted, with permission to the Candidate, on special grounds, to be absent from Convocation, the fee is.....$25.00.

The B.A. fee must be paid before Examination.

The M.A. fee must be sent to the Secretary of the University at the same time that the Candidate sends his Thesis to the Dean of the Faculty. This is a condition essential to the reception of his application.

A Bachelor of Arts of Master or Arts, intending to proceed to a higher Degree, is required, in addition to the above, to keep his name on the books of the University, by the annual payment of a fee of $2 to the Registrar of the University (which payment suffices also for Registration under Chap. III. of the Statutes of the University). He may, if he prefer it, compound for the above Annual fees, by the payment of $6 in one sum for the Master's Degree, or $30 for the Doctor's Degree, on or before the date of application for the Degree.

§ XII. COURSES OF LECTURES.

I. ORDINARY COURSE.

1. CLASSICAL LITERATURE AND HISTORY.

(Major H. Mills Professorship of Classics.)

Professor, Rev. G. Cornish, M.A., LL.D.

Greek.

First Year.—Homer, Odyssey, Book XXI.
Second Year.—Isocrates.—Panegyricus.
Third Year.—Lysias.—Contra Eratosthenem.
Æschylus.—Prometheus Vinctus.
Fourth Year.—Demosthenes.—The Olynthiacs.

Latin.

Lecturer, J. M. Mulgan, B.A.

First Year.—Virgil.—Æneid, Book VI.
Cicero.—In Cæcilium.
Latin Prose Composition.

Second Year.—Horace.—Epistles, Book I.
Tacitus.—Germania, Chaps. I.-XXVII.
Latin Prose Composition.

Third Year.—Juvenal.—Satires VIII. and X.
Plautus.—Aulularia.
Latin Prose Composition.

Fourth Year.—Tacitus.—Annals, Book I.
Latin Prose Composition.

In the work of the Class the attention of the Student is directed to the collateral subjects of History, Antiquities and Geography; also to the grammatical structure and affinities of the Greek and Latin Languages; and to Prosody and Accentuation.

---

2. ENGLISH LANGUAGE AND LITERATURE.

(MOLSON PROFESSORSHIP.)

Professor, CHAS. E. MOYSE, B.A.

First Year.—English Language and Literature. Three Lectures a week.

The Lectures on Language exemplify the more important features in the history of English: Exercises on Analysis are given in once a week. The Lectures on Literature comprise the period between the Celts and Wordsworth. Students who have leisure will be advised as to their reading.

Second Year.—A period of English Literature, and one play of Shakespeare.

One Lecture a week before Christmas; two Lectures a week after Christmas.

During the Session of 1885-6, the Literature of the Elizabethan and Stuart periods will form the subject of the Lectures. Shakespeare—*Tempest.*

Third Year.—Chaucer's Prologue to Canterbury Tales.

Lecture once a week.

Text-Book, Chaucer's Prologue, &c., Ed. Morris.

Additional Department.—Early English.—Morris and Skeat, extt. I.-IX. inclusive.

Milton; Comus; Areopagitica.

Burke—Thoughts on Present Discontents; Reflections on French Revolution.

History—Bryce's Holy Roman Empire, as on page

Fourth Year.—History.

The Lectures will be a sketch of general European History from the fall of the Roman Empire to the end of the Eighteenth Century.

Additional Department.—Anglo-Saxon; Earle's Introduction.

Spenser—Faerie Queene, Book I.

Pope—Essay on Criticism, Essay on Man.

Tennyson—In Memoriam.

History—Buckle, Hist. of Civ. in England, 4 caps.

(The Lectures of the Additional Department in each year are comprised in the Honour Lectures).

3. MENTAL AND MORAL PHILOSOPHY.

(JOHN FROTHINGHAM PROFESSORSHIP OF MENTAL AND MORAL PHILOSOPHY).

Professor, REV. J. CLARK MURRAY, LL.D.

Second Year.—First Term.—Elementary Psychology (Text-Book :—Murray's Handbook of Psychology, Book I.). Second Term.—Logic (Textbook :—Jevons' Elementary Lessons in Logic).

Third Year.—*Additional Department.*—Advanced Logic and Psychology (Text-books :—Mill's System of Logic, Books I.-III. ; and Murray's Handbook of Psychology, Book II.).

Fourth Year.—First Term.—The Psychological Basis of Ethics. Second Term.—Ethics Proper, comprising the elementary principles of Jurisprudence and Political Science. *Additional Department.*—Modern Philosophical Systems.

In the Third and Fourth Years Students are also required to write occasional Essays on Philosophical Subjects.

---

4. FRENCH LANGUAGE AND LITERATURE.

Professor, P. J. DAREY, M.A., B.C.L.

First Year.—DAREY, Principes de Grammaire française.
LA FONTAINE, Les Fables, livres I. et II.
MOLIERE, Les Fourberies de Scapin.
Dictation. Colloquial exercises.

Second Year.—DAREY, Principes de Grammaire française.
C. DELAVIGNE, Les Enfants d'Edouard.—RACINE, Andromaque.
Translation into French :—DR. JOHNSON, Rasselas.
BONNEFON.—Les Ecrivains célèbres de la France of the XVIth and XVIIth centuries.
Dictation. Parsing. Colloquial exercises.

Third Year.—PONSARD, l'Honneur et l'Argent.
Cogery :—Third French course.
Translation into French :—MACAULAY, Warren Hastings.
French Composition. Dictation.
BONNEFON, Les Ecrivains célèbres de la France au XVIIIe siècle.

Additional Department.—LA FONTAINE, Les Fables.
RACINE, Les Plaideurs.
PAUL ALBERT, Littérature du XVIIe siècle.
Translation into French :—GOLDSMITH, The Vicar of Wakefield.

Fourth Year.—Cogery :—Third French course.
BONNEFON—Les Ecrivains modernes de la France.
Translation into French :—MACAULAY, Warren Hastings.
French Composition. Dictation.
MOLIERE, Le Misanthrope.

Additional Department.—

AUG. BRACHET, Grammaire historique.

PAUL ALBERT, depuis le commencement de la langue française jusqu'au XVIIe. siècle.

EMILE SOUVESTRE.—Un Philosophe sous les toits.

Translation into French:—As you like it.

The Lectures in the Third and Fourth Years are given in French.

---

5. GERMAN LANGUAGE AND LITERATURE.

Professor, C. F. A. MARKGRAF, M.A.

First Year.—Schmidt's German Guide (1st Course). Adler's Progressive German Reader (selections from Sections 1 and 2); Translations, oral and written.

Second Year.—Schmidt's German Guide (2nd Course). Adler's Progressive German Reader (selections from Sections 3—5). Translations, oral and written. Parsing.

Third Year.—Schmidt's German Guide (3rd Course). Chamisso, Peter Schlemihl; Lessing, Minna von Barnhelm. History of German Literature from the earliest periods to the close of the 18th century (a brief survey by the Professor). Translation into German.

Additional Department.—Koerner, Leyer und Schwert; Schiller, Wilhelm Tell. Translation from English Prose writers.

Fourth Year.—Whitney's German Grammar (excerpts); Schiller, Wallenstein. Moschzisker's Guide to German Literature (Epoch VII., Sections I. —VI.; 1750- 1850)

Translation from English Prose writers. German Composition.

Additional Department.—Whitney's Grammar (cont.).

Goethe, Iphigenie auf Tauris.

Lessing, Nathan der Weise.

Schiller, Geschichte des dreissigjahrigen Krieges.

---

6. HEBREW AND ORIENTAL LITERATURE,

Professor Coussirat, B.A., B.D.

Elementary Course.—(*For Students of the First and Second Years*).—Grammar:—Text-Book, J. Robert, Wolf's Practical Hebrew Grammar, with exercises in Orthography and Etymology; Reading; Translation and Grammatical Analysis of Historical portions of the Scriptures—Syntax—Mishlé Shualim—Fables, &c.

Advanced Course. (*For Students of the Second, Third and Fourth Years.*) Introduction to the Study of Hebrew Poetry its spirit and characteristics. Lowth

and Sarchi as Text-books. Translation from the Psalms, Job, Ruth, and Isaiah. Ancient compared with Modern Hebrew Poetry ; the productions of Halevi, Gabirol, &c. Grammar (Gesenius, Hebrew Grammar), Exercises, &c., continued.

Additional Department (*Optional*) :—*For Third and Fourth Years.*

The Chaldee Language :—Riggs' Grammar and Translation.

The Chaldee portions of Scripture. Targum of Onkelos and T. Yerushalmi.

The Syriac Language :—Grammar (Uhlemann's) and Translation.

The course comprises Lectures on the above Languages and their Literature in particular, with a general notice of the other Oriental Languages, their genius and peculiarities. Comparative Philology, affinity of Roots, &c., also receive due attention, while the portions selected for translation will be illustrated and explained by reference to Oriental manners, customs, history, &c.

---

7. MATHEMATICS AND NATURAL PHILOSOPHY.

(PETER REDPATH PROFESSORSHIP OF NATURAL PHILOSOPHY.)

Professor, ALEXANDER JOHNSON, M.A., LL.D.

(In the work of the First Year assistance will be given by G. H. Chandler, M.A., Lecturer in Mathematics in the Faculty of Applied Science.)

MATHEMATICS.—(*First Year*)—Arithmetic—Euclid, Books 1, 2, 3, 4, 6, with Definitions of Book 5 (omitting propositions 27, 28, 29, of Book 6), Todhunter's Edition—Colenso's Algebra (Part 1.) to end of Quadratic Equations.—Galbraith and Haughton's Plane Trigonometry to beginning of solution of Plane Triangles.

MATHEMATICS.—(*Second Year*)—Arithmetic, Euclid, Algebra, and Trigonometry as before.—Nature and use of Logarithms.—Remainder of Galbraith and Haughton's Plane Trigonometry.

The course for the Intermediate University Examination consists of the Mathematics of the first two years.

MATHEMATICAL PHYSICS.—(*Third Year*)—Galbraith and Haughton's Mechanics, viz., *Statics*, First 3 chapters, omitting sec. 5, chapter I., and sect. 21, chapter II. ; *Dynamics*, subjects of the First 5 chapters. Galbraith and Haughton's Hydrostatics.

Additional Department.—Optics (Galbraith and Haughton). Descriptive Astronomy (Lockyer's Elementary Astronomy, English edition ; First three chapters, viz., The Stars and Nebulæ ; The Sun ; The Solar System). Students are recommended to use with this an "Easy Guide to the Constellations," by Gall.

ASTRONOMY.—(*Optional*).—(*Fourth Year*)—Galbraith and Haughton's Astronomy—The lectures on this subject will be given before Christmas. This, with Optics, forms the Additional Department for the Fourth Year (see note on B.A. Examination).

EXPERIMENTAL PHYSICS.—(*Third and Fourth Years*) 1.—*Light.*—Theories —Reflection.—Refraction.—Dispersion.—Interference and Diffraction.—Double Refraction.—Polarization. 2.—*Heat.*—Dilatation of Solids, Liquids and Gases.—Specific and Latent Heat.—Radiation and Conduction.—Mechanical Theory of Heat. 3.—*Electricity*—Statical and Dynamical :—including Electro-Magnetism—Magneto-Electricity—Thermo-Electricity—Diamagnetism—Electric Measurements —Practical Application to Telegraphy, &c. 4.—*Magnetism.* 5.—*Sound.*—Theory of Undulations—Production and Propagation of Sound—Vibrations of Strings, Rods and Plates—Vibrations of Fluids—Musical Sounds. Text-Book :—Ganot's Treatise translated by Atkinson. This Course extends over two Years.

The Subjects for the Session 1885-86 are Light and Heat.

The Lectures in Mathematical and Experimental Physics will be illustrated by Apparatus, of which the College has a very good collection.

---

8. GEOLOGY AND NATURAL HISTORY.

(LOGAN PROFESSORSHIP OF GEOLOGY.)

Professor Sir J. WM. DAWSON, C.M.G., LL.D., F.R.S., F.G.S.

B. J. HARRINGTON, B.A., Ph.D., F.G.S., Professor of Mineralogy.

ZOOLOGY AND PALÆONTOLOGY. (*Third Year.*)—Elements of Animal Physiology. Classification of Animals. Characters of the Classes and Orders of Animals, with Recent and Fossil Examples, taken as far as possible from Canadian Species. Demonstrations in the Museum.

Text Book.—Dawson's Hand-book of Zoology, with books of reference.

MINERALOGY AND GEOLOGY.—(*Fourth Year.*)

1. *Mineralogy and Lithology.*—An elementary course in which attention is given more particularly to such minerals and rocks as are important in Geology or useful in the Arts.

2. *Stratigraphy, Chronological Geology and Palæontology.*—Data for determining the relative ages of Formations. Classification according to age. Fauna and Flora of the successive periods. Geology of British America. The lectures will be fully illustrated with specimens and will be accompanied with demonstrations in the Museum and excursions for field work.

Text Books,—Dana's Manuals of Mineralogy and Geology ; Dawson's Lecture Notes on Geology.

Students in Natural History are entitled to tickets of admission to the Museum of the Natural History Society of Montreal.

ADDITIONAL DEPARTMENT.—(*Third Year.*)

MINERALOGY, as in the Honour Course of the Third Year, omitting the Blowpipe work.

ADDITIONAL DEPARTMENT.— (*Fourth Year.*)

MINERALOGY AND LITHOLOGY.—Chemical and Physical characters of Minerals, including Crystallography, the methods of determining species, and Descriptive Mineralogy. Composition of Rocks and their structure on the small scale; Classification of Rocks. GEOLOGY.—Geology of British America (Part of Honour Course).

---

9. BOTANY.

Professor, D. P. PENHALLOW, B.Sc.

Second Year.—General Morphology and Classification. Descriptive Botany. Flora of Canada. Nutrition and reproduction of plants. Elements of Histology.

Text-Book.—Gray or Bessey.

A prize of $20 will be given by the Professor for the best collection of plants and the greatest proficiency in their determination. The prize collections or duplicates of them to remain in the College Museum. Candidates must be Students of Botany of the Previous Session.

ADDITIONAL DEPARTMENT.—(*Third Year.*)

Two lectures with practical work, each week.

Course.—Vegetable Histology and Micro-Chemistry of Plants. Microscopical Manipulations.

---

10. CHEMISTRY.

(DAVID J. GREENSHIELDS PROFESSORSHIP OF CHEMISTRY AND MINERALOGY.)

Professor, B. J. HARRINGTON, B.A., Ph.D.

First Year.—A Course of Lectures preparatory to the Course in Natural Science. The Lectures are illustrated by experiments, and treat of the Elementary Constitution of Matter, the Laws of Chemical Combination by weight and volume, the Atomic Theory, Quantivalence, Chemical Formulæ and Equations, Chemical Attraction, characteristics of Acids, Bases and Salts, Compound Radicals, the preparation and properties of the non-metallic and metallic Elements, and many of their

compounds, &c. A few Lectures are also devoted to the consideration of some of the more important Organic Substances, including Starch, Sugars, the Vegetable Acids, Alcohol, Albumen, &c. During the Course attention is called, as far as possible, to the relations of Chemistry to various manufacturing industries. The laboratory is supplied with the usual apparatus, including balances by Becker & Sons, spectroscope by Duboscq, oxy-hydrogen lamp and blowpipe, large gas-holders, &c.

Text Book —Nichol's Abridgment of Eliot and Storer's Manual of Chemistry.

ADDITIONAL DEPARTMENT.—(*Third Year.*)

(*Theoretical Chemistry*).—One lecture a week. (*Practical Chemistry.*)—Qualitative Analysis, as in Jones' Junior Course of Practical Chemistry, two afternoons a week.

ADDITIONAL DEPARTMENT.—(*Fourth Year.*)

A course of Practical Chemistry, in continuation of that of the Third Year.

---

11. METEOROLOGY.

Superintendent of Observatory, C. H. MCLEOD, Ma.E.

Instruction in Meteorological Observations will be given in the Observatory, at hours to suit the convenience of the senior students.

Certificates will be granted to those students who pass a satisfactory examination on the construction and use of Meteorological Instruments and on the general facts of Meteorology.

---

12. ELOCUTION.

MR. JOHN ANDREW, Instructor.

Students are recommended by the Faculty to avail themselves of the Instructions of Mr. Andrew, who will make arrangements for evening classes to meet during the Session.

---

13. GYMNASTICS.

MR. FREDERICK S. BARNJUM, Instructor.

The classes will meet at the University gymnasium, at hours to be announced at the commencement of the Session. The Wicksteed gold, silver and bronze medals (the gift of Dr. R. J. Wicksteed) are offered for competition to students of the graduating class, and to students who have had instruction in the gymnasium for two sessions, the gold medal to the former, the silver and bronze medals to the latter.

II. HONOUR COURSES.

1. CLASSICS.

B.A. HONOURS, BEING THE HONOUR COURSE FOR STUDENTS OF THE THIRD AND FOURTH YEARS.

Candidates for B.A. Honours in Classics will be examined in the following subjects:

I. GREEK.

Plato.—Republic, Books I. and II.
Aristotle.—The Poetics.
Herodotus.—Books VIII. and IX.
Thucydides.—Books VI. and VII.
Xenophon.—Hellenics, Books I. and II.
Hesiod.—Works and Days.
Æschylus.—Prometheus Vinctus.
" Seven against Thebes.
Sophocles.—Antigone.
Euripides.—Hippolytus.
Aristophanes.—The Frogs.
Pindar.—Olympic Odes.
Theocritus.—Idylls I. to VI.
Demosthenes.—De Corona.
Æschines.—Contra Ctesiphontem.

II. LATIN.

Livy.—Books XXI., XXII. and XXXIII.
Tacitus.—Annals, Books I. and II.
" Histories, Book I.
Virgil.—Æneid, Books I. to IV.
Plautus.—Aulularia.
Terence.—Adelphi.
Horace.—Satires, Book I.
Juvenal.—Satt. VIII. and X.
Persius.—Satt. V. and VI.
Cicero.—De Imperio Cn. Pompeii.
" De Officiis.

III. HISTORY OF GREECE AND ROME.

Text-Books :—

1. Grote's History of Greece.
2. Arnold's History of Rome.
3. Mommsen's History of Rome.
4. Mahaffy's History of Greek Literature.
5. Cruttwell's History of Roman Literature.
6. Cruttwell and Banton's Specimens of Roman Literature.
7. Donaldson's Theatre of the Greeks.

IV. COMPOSITION.

1. Composition in Greek and Latin Prose.

2. General paper on Grammar, History and Antiquities.

The Examination for B.A. Honours will extend over four days, in the morning from 9 to 12, and the afternoon 2 to 5.

---

2. MENTAL AND MORAL PHILOSOPHY.

The Lectures are devoted mainly to Ancient Philosophy in the Third Year, to Modern Philosophy in the Fourth. In addition to the Lectures, the Examination will comprise the first four of the following subjects in the Third Year, the last eight in the Fourth :—

1. Schwegler's History of Philosophy, Chapters 1-21 inclusive.
2. Cicero's De Natura Deorum.
3. Fraser's Selections from Berkeley.
4. Thomson's Outlines of the Laws of Thought.
5. Aristotle's Nicomachean Ethics.
6. Descartes' Method and Meditations.
7. Spinoza's Ethics.
8. Watson's Philosophy of Kant in Extracts.
9. Murray's Outline of Hamilton's Philosophy.
10. Mill's System of Logic.
11. Spencer's First Principles.
12. Maine's Ancient Law.

N.B.—The class-essays of candidates for honours are expected to display superior ability in the discussion of philosophical subjects.

---

3. ENGLISH LANGUAGE, LITERATURE AND HISTORY.

The examination for Honours in the Third Year will be on the works in the following course :—

Language.—Anglo-Saxon.—The lectures of the Third Year.

Early English.—Specimens of Early English (Clarendon Press Series, ed. Morris and Skeat), Part II., extt. I.-IX. inclusive.

Literature.—Chaucer.—The Prologue to the Canterbury Tales, The Knightes Tale, (Clarendon Press Series, ed. Morris).

Spenser.—The Faerie Queene, Book I.

Sidney.—An Apologie for Poetry. (ed. Arber, to be obtained by post from the Editor, 1 Montague Road, Edgbaston, Birmingham, price 6d.)

Milton.—Shorter English Poems; Areopagitica (ed. Hales).

Dryden.—Annus Mirabilis; Absalom and Achitophel, Pt. I. The Preface to the "Fables."

Wordsworth.—Prelude (Moxon's edition).

Leslie Stephen—English Thought in the Eighteenth Century, vol. II, cap. X., sections V.-X., inclusive.

History.—The Lectures on Constitutional History.

Hallam.—Middle Ages, caps. 1, 3, 5, 8, 9.

Macaulay.—Vol. I., cap. 1.

Lectures on the Honour Subjects of the Third Year.

Language.—Anglo-Saxon.—The essentials of the Anglo-Saxon Language and Literature. Text-book—Sweet's Anglo-Saxon Reader (Clarendon Press Series).

Literature.—A course on some of the special Honour subjects.

History.—Honour students are required to attend the Ordinary course of lectures on History.

B.A. HONOUR COURSE.

For B.A. Honours, the examination will be on the following subjects:

Language.—Anglo-Saxon—The Lectures of the Fourth Year.

Early English—Specimens of Early English (Clarendon Press Series ed, Morris & Skeat), Part II., ext. X.-XX., inclusive.

Literature.—Shakespeare—Love's Labour's Lost, A Midsummer's Night's Dream, Hamlet.

Sir Thos. More.—Utopia, (ed. Arber, price 1s).

George Villiers, Duke of Buckingham.—Rehearsal. (ed. Arber price 1s)

Pope—Essay on Criticism, Essay on Man.

Campbell—The Pleasures of Hope.

Shelley—Revolt of Islam.

Tennyson—Idylls of the King, In Memoriam.

Matthew Arnold—Essays in Criticism (the second).

History.—The lectures of the Fourth Year.

Freeman.—Growth of the English Constitution.

Freeman.—Historical Geography of Europe, caps. 1, 8, 9, 11 12.

Macaulay, vol. I. cap. 3.

*See Third Year Honour Course.

Lectures on the Honour Subjects of the Fourth Year.

Language.—Anglo-Saxon—Sweet's Anglo-Saxon Reader, and a portion of one of the longer Anglo-Saxon poems.

Literature.—A course on these special Honour subjects, viz.:—the four prescribed plays of Shakespeare and Modern Poetry, with special reference to Tennyson's Idylls of the King, and In Memoriam.

History.—Honour Students are required to attend the course of lectures on Constitutional History.

4. MATHEMATICS AND PHYSICS.

MATHEMATICS.—(*First Year.*)—McDowell's Exercises on Modern Geometry, &c.—Wood's Algebra—Todhunter's Theory of Equations (selected course).

The Honour lectures in the First Year begin after Christmas. Candidates will be examined on the first half of McDowell's Exercises before admission to them.

MATHEMATICS.—(*Second Year*). Hind's Plane and Spherical Trigonometry—Salmon's Conic Sections, chapters, 1, 2, 3, 5, 6, 7, and 10 to 13, inclusive.—Williamson's Differential and Integral Calculus (selected course).

MATHEMATICAL PHYSICS.—(*Third Year.*)—Minchin's Statics (omitting Chapters 15 and 16).—Williamson & Tarleton's Dynamics, chaps. 1 to 8 inclusive, (Dynamics of a Particle).—Besant's Hydromechanics, Chaps. 1, 2, 3, 7.—Parkinson's Optics.—Godfray's Astronomy.

B.A. HONOUR COURSE.

PURE MATHEMATICS.—Williamson's Differential and Integral Calculus.—Boole's Differential Equations (selected course).—Salmon's Geometry of three Dimensions (selected course).

MECHANICS.—Minchin's Statics, except last chapter.—Williamson & Tarleton's Dynamics (the whole, including the dynamics both of Rigid Bodies and of a Particle).—Routh's Dynamics of a Rigid Body (for reference).—Besant's Hydromechanics.

PHYSICAL ASTRONOMY.—Godfray's Lunar Theory, or Cheyne's Planetary Theory.

Newton's Principia, Lib. I., Sects. 1, 2, 3, 9, and 11.

LIGHT.—Lloyd's Wave Theory of Light.

ELECTRICITY AND MAGNETISM.—Ordinary Course and Maxwell's Elementary Electricity.

HEAT, ACOUSTICS, } As in ordinary course.

Engineering students may be candidates for Honours.

ANNE MOLSON MATHEMATICAL PRIZE.

Subject of examination.

The Mathematical Physics of the Honour Course of the Third Year: Salmon's Geometry of Three Dimensions (selected course): Williamson's Differential and Integral Calculus (selected course).

The value of the prize is about $64. It is open for competition to students entering on the Fourth Year.

5. NATURAL HISTORY AND GEOLOGY.

THIRD YEAR.

(1) *Mineralogy.*—Crystallography. Physical properties of minerals dependent upon light, electricity, state of aggregation, etc. Chemical composition. Principles of classification. Description of species important as constituents of Rocks. Blowpipe Analysis and Determinative Mineralogy.

(2) *Lithology.*—Classes of Rocks, Texture and Composition. Description of the more commonly occurring Rocks.

(3) Directions for collection and study in the vacation.

B.A. HONOUR COURSE.

(1) *Mineralogy and Lithology.*—Description of mineral species, particular attention being called to the Economic Minerals of Canada. Calculation of mineralogical Formulæ, Quantivalent Ratios, etc. Essential and accessory constituents of Rocks. Macroscopic and microscopic characters. Preparation of Rock-sections. Microscopic examination of Minerals and Rocks. Principles of classification. Description and determination of Rocks. (One lecture weekly, with occasional demonstrations in the Museum or Laboratory).

(2) *Canadian Geology.*—Studies of the several Geological formations of Canada with their distribution, subdivisions and characteristic fossils. One lecture weekly, with excursions and Museum demonstrations. (Dana's Manual of Geology. Reports of Geological Survey, Dawson's Acadian Geology.)

(3). *Practical Geology.*—Including methods of observing and recording geological facts and of searching for mineral deposits. *Palæontology*, including studies of special groups of fossils. One lecture or demonstration weekly. (Geikie's Field Geology, Nicholson's Palæontology, special Reports and Memoirs.)

Candidates for Honours will be expected to attain to such proficiency as to be able to undertake original investigations in some at least of the subjects of study.

Students in the Faculty of Applied Science may be candidates for Honours.

Lectures in the Undergraduate Course in the Faculty of Arts.

SESSION OF 1885-86.

	Hours.	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.
FIRST YEAR.	9	Classics.	† Mathematics. (*b*)	English.	† Mathematics. (*b*)	Mathematics.
	10	Mathematics.	Classics.	Classics.	Classics.	Classics.
	11	English.	* French.	* French.	* French.	English.
	12	Elementary Chemistry.	* German. * Hebrew.	Mathematics.	* German. * Hebrew.	Elementary Chemistry.
SECOND YEAR.	9	* French.	Logic.	* French.	* German.	* French.
	10	Classics.	Botany. (*d*)	Logic.	Botany. (*d*)	* German. † Mathematics.
	11	Mathematics.	Classics.	† Mathematics. Botany.	Classics.	Classics.
	12	† Mathematics. Botany.	* German. (*c*)	English.	* German. (*c*)	Logic.
THIRD YEAR.	9	English Literature.	Classics.	† Classics. † Math. Phy.	Classics.	† Classics. † English. (*e*) † Geol.
	10	German. † Math. Physics	French. † Ment. Phil.	† Anglo-Saxon. (*e*) Physics [Mathematical].	French. Theoretical Chemistry(*e*)	Rhetoric.
	11	† Mental Philosophy. Mental Philosophy. (*e*)	Zoology.	Mental Philosophy. (*e*)	Zoology.	Physics [Mathematical].
	12		⁋ Physics. [Experimental].	Ment. Phil. (alternate weeks).	⁋ Physics [Experimental].	† Mathematical Physics.
	1		Hebrew.		Hebrew.	German.
FOURTH YEAR.	9	† Math. Physics.	Astronomy. (*a*)	† Classics. Geology.	Astronomy. (*a*)	Classics.
	10	Geology.	† M. Phy. French. † M. Ph.	English Literature. (*e*)	† Math. Phys. † Mental Phil.	Geology.
	11	Classics. † Geology.	German.	Classics. † Geology.	† English. German.	French. † Geology. Anglo-Saxon and Early English.
	12	† English. Moral Phil.	Moral Phil.		Moral Philosophy.	German.
	1		⁋ Physics [Experimental].		⁋ Physics [Experimental]. Hebrew.	

(*a*) During First Term. (*b*) Second Term. (*c*) For beginners entering 2nd Year. † For Candidates for Honours. (*d*) For Medical and Occasional Students.
* The Student may take at his option French or German in the first two years, or, if a Theological Student, Hebrew. ⁋ From Nov. 1st.
Classes at 1 p.m. may be changed to other hours.
(*e*) Additional Department.
Library open every day, 9 to 4. The Museum will be open as arranged by the Professor of Natural History.
Determinative Mineralogy, Wednesday, at 2 p.m. Practical Chemistry, Monday and Thursday, at 2 p.m.

Special Course for Women,

IN THE FACULTY OF ARTS.

DONALDA ENDOWMENT.

The classes for women under this endowment are wholly separate except those for Honours (including most of the additional classes in the Third and Fourth years). The examinations are identical with those for men. Women will have the same privileges with reference to Classing, Honours, Prizes and Medals as men.

In the session 1885-6 there will be classes in the First and Second years; in the session of 1886-7 classes will be opened in the Third year; and in the session of 1887-8 classes in the Fourth or Final year.

Regulations for Examinations, Exemptions, Boarding Houses, Attendance, Conduct, Library and Museum will be the same as for men, but not the same for Academic Dress.

The Jane Redpath Exhibition is open for competition, at Entrance into the First Year, to both men and women.

The income of the Hannah Willard Lyman Memorial Fund will be given in prizes in the First and Second years.

I. MATRICULATION AND ADMISSION.

In Classics.—Latin.—Cicero, Orations I. and II. against Catiline; or, Virgil Æneid, Book I.; Latin Grammar.

Greek.—Xenophon, Anabasis, Book I.; or, Homer, Iliad, Book I.; Greek Grammar.

Candidates who cannot pass in Greek may substitute an additional modern language in the course.

In Mathematics.—Arithmetic; Algebra, to Simple Equations, inclusive; Euclid's Elements, Books I., II., III.

In English.—Writing from Dictation. A paper on English Grammar, *including Analysis*. A paper on the leading events of English History.

An equivalent amount of other books or other authors in Latin and Greek than those named may be accepted by the Examiners.

PARTIAL STUDENTS.—Candidates unable to pass in all the above subjects may be admitted as Partial Students, if prepared to enter in three of the subjects of the course of study ; and may make good their standing as Undergraduates in the Christmas or Sessional Examinations.

OCCASIONAL STUDENTS.—Ladies desirous of taking one or two Courses of Lectures, as Occasional Students, may procure from the Secretary of the University tickets for the Lectures they desire to attend.

II. COURSES OF STUDY.

First Year.—Classics ; French or German ; English Grammar and Literature ; Pure Mathematics ; Elementary Chemistry.

Second Year.—Classics ; French or German ; English Literature ; Elementary Psychology and Logic ; Pure Mathematics ; Botany.

Details will be found in Section XII. of the Calendar.

The course of Study for the Third Year will be announced in the Calendar of next Session.

III. FEES.

Matriculation Fee for the First Year (to be paid in the Year of Entrance only).....$ 4 00
Sessional Fee..... 20 00
Library Fee (optional)..... 4 00

Partial Students, viz., those taking three or more Courses of Lectures, are required to pay the Matriculation Fee, and $5 for each Course which they attend, or $20 for all the Courses.

The above Fees are to be paid to the Registrar of the University, from whom Tickets for the Library and copies of the Library Rules may be obtained.

Occasional Students—$5 for each class.

Special arrangements for students of the Ladies' Educational Association, attending the classes in Chemistry and Botany as occasional Students, may be learned on application to the Secretary of the Association.

[Associates in Arts, who at their special Examination, have passed in Latin, Algebra and Geometry, are not required to present themselves for the Matriculation Examination.]

Exemptions from fees may be allowed to the highest pupil of the Girls' High School of Montreal, and of other Schools, on the same terms as to men.

IV. LODGINGS.

Women not resident in Montreal, proposing to attend the classes, and desiring to have information as to suitable lodgings, are requested to intimate their wishes in this respect to the Registrar of the University at least two weeks before the opening of the session.

It is expected that arrangements may be made with some of the Ladies' Schools in the city to receive students desiring accommodation as boarders.

V. TABLE OF LECTURES.

First Year.

Hours.	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.
12		Chemistry.		Chemistry.		
2	Math'cs.	French.	Math'cs.	French.	Math'cs.	
3	Latin.	German.	Latin.	Latin.	German.	
4	Greek.	English.	English.	Greek.	English.	

Second Year.

Hours.	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.
2	Latin.	Logic.	Latin.	Greek. / German.	Logic.	
3	Mathemat's	French.	English.	French.	English.	
4	German.	Botany.	Greek.	Logic.	Botany.	

The Lectures in Chemistry will be delivered in the Chemical class-room :— entrance by the Laboratory door. Other Lectures will be delivered in the Lecture-room of the Peter Redpath Museum, or in new lecture rooms.

The Students will have the aid and oversight of a competent Lady Superintendent.

Faculty of Applied Science.

THE PRINCIPAL (*ex-officio*).

Professors :—	GIRDWOOD.	Associate Professors :—	DAWSON.
	HARRINGTON.		MARKGRAF.
	BOVEY.		JOHNSON.
	McLEOD.		DAREY.
Lecturer :—	CHANDLER.		MOYSE.
			PENHALLOW.

Dean of the Faculty :—HENRY T. BOVEY, M.A., C.E.

The Instruction in this Faculty is designed to afford a complete preliminary training, of a technical as well as theoretical nature, to such Students as are preparing to enter any of the various branches of the professions of Engineering and Surveying, or are destined to be engaged in Assaying, Practical Chemistry, and the higher forms of Manufacturing Art.

Four distinct Departments of study are established, viz. :—

(1).—Civil Engineering and Surveying, (2).—Mechanical Engineering, (3).—Mining Engineering, (4).—Practical Chemistry.

Each of these extends over four, or, under certain conditions, three years, and is specially adapted to the prospective pursuits of the Student.

The Degrees conferred by the University upon such Undergraduates of this Faculty as shall fulfil the conditions and pass the Examinations hereinafter stated, will be, in the first instance, "Bachelor of Applied Science," mention being made in the Diploma of the particular Department of study pursued; and, subsequently, the degree of "Master of Engineering" upon those who have pursued Departments 1, 2, or 3, and of "Master of Applied Science" upon those who have pursued Department 4.

Examination for Land Surveyors:—Any Graduate in the Faculty of Applied Science, in the Department of Civil Engineering and Land Surveying, may have his term of apprenticeship shortened to one year for the profession of Land Surveyor in Quebec or Ontario, or for the profession of Dominion Land Surveyor. He must, however, pass the preliminary and final examinations before one of the Boards of Examiners. The former examination should be passed before entering the University, or during the First or Second Year of attendance.

Students in the Civil Engineering Department who at the beginning of their Fourth Year give notice to the Faculty of their intention to prepare for the Examination for Dominion Topographical Surveyors, will receive preparation for that Examination, more especially in Spherical and Practical Astronomy and Geodesy, and may be exempted from the Heat and Hydraulics, or from the Designing of the Fourth Year.

Partial Students may be admitted to the lectures and examinations in the above special work.

---

§ I. MATRICULATION AND ADMISSION.

1.—Candidates for Matriculation must present themselves for examination on the 14th of September, 1885. They may, however, be admitted at a later period of the Session, upon special application, if qualified to take their places in the classes in progress.

FOR ENTRANCE INTO THE FIRST YEAR, the subjects for examination will be:—

Mathematics—Arithmetic; Algebra, to end of Simple Equations; Euclid's Elements, Books I, II, III.

English.—Grammar (including Analysis) and Composition.

Candidates in the School Examinations of the University, who have passed in Geometry, Algebra and English, may be received as matriculated Students in the First Year.

2.—*The full course will extend over a period of FOUR years; but candidates may enter the SECOND year, and thus reduce the course to Three years*, if competent to pass a satisfactory examination in the following subjects:

Arithmetic.

Algebra.—To the end of Quadratics (as in Colenso's Algebra, Part I.).

Euclid.—Books I., II., III., IV., VI., and XI., and the definitions of Book V.

Plane Trigonometry.—Including solution of Triangles, and the use of Mathematical Tables.

Chemistry.—As in Nichol's Abridgment of Eliot and Storer's Manual.

English.—Grammar (including Analysis,) composition and the leading facts of the History of England.

French or German.—(French Grammar and easy translation. German as in Schmidt's German Guide, Part I., and easy translation.)

Candidates unable to pass in Chemistry, French or German, may be allowed by the Faculty to enter and take the First Year lectures on Chemistry and German.

Candidates who produce certificates of having already completed a portion of a course in some recognized School of Applied Science, may be admitted to an equivalent standing.

---

§ II. MEDALS, EXHIBITIONS AND PRIZES.

1. The Lansdowne Silver Medal (the gift of His Excellency The Right Honourable the Marquis of Lansdowne.)

The Lansdowne Medal for session 1885-86 will be open for competition to Fourth Year Students of the Practical Chemistry Course. Candidates must take a first-class general standing in their Ordinary Course, and the Medal will be awarded to the Student who stands first in the Advanced Course. (§IV. B.)

2. The British Association Gold Medal (founded by the British Association for the Advancement of Science in commemoration of the meeting held in Montreal in the year 1884) for session 1885-86, will be open for competition to Fourth Year Students of the Civil Engineering Course. Candidates must take a first-class general standing in the Ordinary Course, and the medal will be awarded to the Student who stands first in the Advanced Course. (§IV. B.)

The following will be offered for competition at the opening of Session 1885-86 :—

(1).—The Scott Exhibition of $66 (founded by the Caledonian Society of Montreal in commemoration of the Centenary of Sir Walter Scott), to Students entering the Third Year, the subjects of examination being :—

(*a*).—Macaulay's History of England, Vol. I., Cap. I. ; Sir Walter Scott's Lady of the Lake. (*b*). Mathematics. (*c*). Mechanism.

(2).—A prize in books to the value of $25, presented by Leslie Skelton, Esq., for the best Summer Report.

(3).—A prize of $25 presented by E. B. Greenshields, B.A., to Students entering the Fourth Year, the subjects of examination being the Theory of Structures, Trigonometry, Analytical Geometry and Calculus, of the Ordinary Course.

5. A prize of $15, presented by W. W. Watson, Esq., to Students entering the Third Year, the subject of examination being Practical Chemistry.

(6.)—A prize of $25, presented by S. Greenshields, B.A., for the Mathematical subjects of the Second Year Matriculation, open to all Students entering the Second Year.

---

§ III. SPECIAL PROVISIONS.

1.—Partial Students may be admitted to the Professional classes upon payment of special fees (§ VII).

2.—Undergraduates in Arts may, if allowed by the Faculty of Arts, be admitted to the Professional Classes in Practical Science on payment of the fees for these classes.

3.—Students in Applied Science may, by permission of the Faculty, take the Honour Classes in the Faculty of Arts.

4.—Students who have passed the Intermediate in Arts, and not lower than the Second Class in Mathematics, have the privilege of entering the Second Year in Applied Science, and will be exempted from one of the Departments in the Third and Fourth Years in Arts.

5.—Undergraduates in Arts of the Second or Third Years, or Graduates of any University, entering the Faculty of Applied Science may, at the discretion of the Professors, be exempted from such lectures in that Faculty as they may have previously attended as Students in Arts, but must pass all the examinations.

6.—Students who fail to obtain their Session, and who, in consequence, repeat the Year, will not be exempted from examination in any of those subjects in which they may have satisfied the examiners, except by the express permission of the Faculty. Application for such exemption must be made at the commencement of the Session.

§ IV. COURSES OF STUDY FOR SESSION 1885-86.

A. ORDINARY COURSES.

FIRST YEAR.

Civil Engineering.	Mechanical Engineering.	Mining Engineering.	Practical Chemistry.
Arithmetic. Euclid.	Arithmetic. Euclid.	Arithmetic Euclid.	Arithmetic Euclid.
Algebra. Trigonometry.	Algebra. Trigonometry.	Algebra. Trigonometry.	Algebra. Trigonometry.
Geometrical Conics.	Geometrical Conics.	Geometrical Conics.	Geometrical Conics.
Solid Geometry.	Solid Geometry.	Solid Geometry.	Solid Geometry.
Descriptive Geometry. (Optional.)	Descriptive Geometry. (Optional.)	Descriptive Geometry. (Optional.)	Descriptive Geometry. (Optional.)
Freehand Drawing.	Freehand Drawing.	Freehand Drawing.	Freehand Drawing.
Chemistry.	Chemistry.	Chemistry.	Chemistry.
English.	English.	English.	English.
French or German.	French or German.	French or German.	French or German.

SECOND YEAR.

Mechanism.	Mechanism.	Practical Chemistry.	Practical Chemistry.
Materials.	Materials.	Mechanism.	
Surveying.	Surveying.	Surveying.	
Drainage.	Drainage.	Drainage.	
Descriptive Geometry.	Descriptive Geometry.	Descriptive Geometry.	Descriptive Geomerty
Algebra.	Algebra.	Algebra.	
Analytical Geometry.	Analytical Geometry.	Analytical Geometry.	
Calculus.	Calculus.	Calculus.	
Mathematical Physics.	Mathematical Physics.	Mathematical Physics.	Mathematical Physics.
Experimental Physics.	Experimental Physics.	Experimental Physics.	Experimental Physics.
Zoology.	Mechanical Work.	Zoology.	Botany.
English.	English.	English.	English.
French or German.	French or German.	French or German.	French or German.

THIRD YEAR.

Theory of Structures.	Theory of Structures.	Theory of Structures.	Practical Chemistry.
Materials.	Materials.	Materials.	Theoretical Chemistry.
Surveying.	Machinery & Millwork	Mining.	
Drainage.	Drainage.		Blowpipe Analysis.
Descriptive Geometry.	Descriptive Geometry.	Practical Chemistry.	Mineralogy.
Analytical Geometry.	Analytical Geometry.	Blowpipe Analysis.	
Calculus.	Calculus.	Descriptive Geometry.	
Sphl. Trigonometry.		Analytical Geometry.	
Practical Astronomy.		Calculus	
Mathematical Physics.	Mathematical Physics.	Mathematical Physics.	Mathematical Physics.
Experimental Physics.	Experimental Physics.	Experimental Physics.	Experimental Physics.
Geology & Mineralogy.	Mechanical Work.	Geology & Mineralogy.	Zoology.
Modern Languages.†	Modern Languages.†	Modern Languages.†	Modern Languages.†

FOURTH YEAR.

Theory of Structures.	Theory of Structures.	Assaying.	Practical Chemistry.
Mathematics.	Mathematics.	Mathematics.	Metallurgy.
	Machinery & Millwork	Metallurgy.	Assaying
Drainage.	Metallurgy of Iron.	Geology (advanced).	Mineralogy.
Railway Work.		Mineralogy (advanced)	Geology.
Heat & Heat-Engines.	Heat & Heat-Engines.	Heat & Heat-Engines.	
Hydraulics.	Hydraulics.	Hydraulics.	
Graphical Statics	Graphical Statics.	Graphical Statics.	
Steam Engine.	Steam Engine.	Steam Engine.	
Materials.	Materials.	Materials.	
Designs.	Designs.	Designs.	
Estimates. Spec'ns.	Estimates. Spec'ns.	Estimates. Spec'ns.	
Modern Languages.*	Modern Languages.*	Modern Languages.*	Modern Languages.*

(1) During the summer recess the Students in the 2nd, 3rd and 4th years are to employ themselves in some practical work (Mechanical Engineering students in a work-shop), and they are also to prepare a report on such work, to be handed in not later than October 1st. Credit will be given for this Report (or Essay) in the subsequent Sessional Examinations.

(2) Students are not allowed to take subjects which do not form part of their course, without the sanction of the Faculty.

† English or French or German. * Modern languages not imperative in the Fourth Year.

B. ADVANCED COURSES.

I. Civil Engineering.—The higher Mathematics and Mathematical Physics and the higher branches of Applied Mechanics. Students who have passed a creditable Examination in the Mathematical subjects of the Second Year may enter the Advanced Course of the Third Year, and may be exempted from the Modern Languages of that Year.

II. Chemistry.—Theoretical Chemistry, Industrial Chemistry, Mineralogy and special laboratory work, with an essay giving the results of original work.

---

§ V. EXAMINATIONS.

1.—FOR THE DEGREE OF BACHELOR OF APPLIED SCIENCE.

There will be a Christmas Examination for Students of the First Year in all the Subjects, and for Students of the Second, Third and Fourth Years in Mathematics, and in those subjects which they take in the Faculty of Arts. A Sessional Examination will be held at the end of each year.

Candidates for the Degree of Bachelor of Applied Science will be examined in all the subjects of the Fourth Year.

The General Classification for the Degree examination will be under two heads, viz. :

1. Those who have satisfied the examiners in the Advanced Courses, in order of merit.

2. Those who have satisfied the examiners in the Ordinary Courses, in order of merit.

Certificates of merit may be given to such Students as take the highest places in the Degree Examinations.

Special Certificates may be given for proficiency in particular subjects.

Certificates may be given to Students who have passed the Special Courses added to the curriculum.

Students who take their Degree in one of the Courses provided by the Faculty of Applied Science may obtain credit in either of the remaining Courses by attending one or more subsequent Sessions, the necessary provision for which will be made.

II. FOR THE DEGREE OF MASTER OF ENGINEERING.

Candidates must be Bachelors of Applied Science of at least three years standing, and must produce satisfactory certificates of having been engaged during that time upon *bona fide* work in either the Civil, Mechanical, or Mining Branch of Engineering.

They must pass with credit an Examination extending over the general Theory and Practice of Engineering, in which papers will be set having special reference to that particular branch upon which they have been engaged during the three preceding years.

Candidates must present applications for Examination, together with the necessary certificates and fees. The Faculty will notify the candidates whether their certificates are satisfactory, and also of the date of the Examination.

III. FOR THE DEGREE OF MASTER OF APPLIED SCIENCE.

Candidates must be Bachelors of Applied Science of at least three years standing, must present certificates of having been employed during that time in some branch of scientific work, and must pass with credit an Examination on the Theory and Practice of those branches of scientific work in which they may have been engaged. The other conditions as under the last heading.

§ VI. ATTENDANCE AND CONDUCT.

The regulations under this head are in all respects the same as those in force for Undergraduates in Arts.

§ VII. LIBRARY AND MUSEUM.

Students in this Department have the same privileges with reference to the Library and Museum as Undergraduates in Arts.

§ VIII. FEES.

In the Course of Civil Engineering.—$45; Library, $4. In all $49 for each Session.

In the Course of Mechanical Engineering.—$45; Library $4. In all $49 for each Session.

In the Course of Mining Engineering.—1st Year, $45; 2nd, 3rd and 4th Years, $55; Library, $4. In all $49 to $59 for each Session.

In the Course of Chemistry.—1st Year, $45 ; 2nd, 3rd and 4th Years, $55 ; Library $4. In all $49 to $59 for each Session.

Matriculation Fee, for the First Year (to be paid in the year of entrance only) $4 ; for the Second Year exigible from Students who enter in the Second Year, and also from those who have failed in the First Year, and enter the Second Year on Examination) $6.

Fee for Degree of Bachelor of Applied Science.—$10.

Fee for Degree of Master of Engineering or Master of Applied Science.—$25.

If for any special reason the degree of Ma. E. and M. A. Sc. be granted *in absentia* the fee will be $40.

The fees must be paid to the Secretary, and the ticket shown to the Dean within a fortnight after the commencement of attendance in each session. In case of default, the Student's name will be removed from the College books, and can be replaced thereon only by permission of the Faculty and on payment of a fine of $2.

The B.A. Sc. fee must be paid before the Examination.

Laboratory Students are required to purchase their own chemicals, &c. The larger articles of apparatus will be supplied by the Laboratory, the Students being responsible for breakage.

Partial Students may be admitted to the Professional Classes in any year, by payment of the ordinary fees for that year ; or they may attend the lectures on any subject by payment of a fee of $5 for each term,* except in the case of Chemistry, for which a fee of $10 for each term is required.

Graduates in the Faculty of Applied Science may take further courses on payment of half the ordinary tuition fees.

Students taking Blowpipe Analysis, when it does not form part of their course, are required to pay a fee of $5.

Partial Students may attend the course of Instruction in Meteorology on paying a fee of $5.

---

* The first term ends with the Christmas examinations, the second with the Sessional.

§ IX. COURSES OF LECTURES.

I. CIVIL ENGINEERING AND APPLIED MECHANICS.

Professor:—HENRY T. BOVEY, M.A., C.E.

Civil Engineering.

The course of instruction in Civil Engineering will include the following:—Mechanism, Earthwork, Masonry, Carpentry, Structures of Timber, Stone and Iron, the Construction of Common Roads, Rail-Roads, Bridges, Viaducts, Tunnels, Canals, River, Harbour and Sea Works, Drainage Works, Lighthouses, Works connected with Irrigation and Water Supply, &c.

The subject for Session 1885-86 will be Drainage.

N.B.—*Students of the Second Year are not required to pass the examination in this subject.*

Applied Mechanics.

The subject of Applied Mechanics will be treated under two heads:—

(*a*). The Strength of Materials, embracing a study of Work, Inertia, Energy and Entropy, the Strength, Stiffness, and Resilience of Materials, Beams or Girders, Pillars, Shafts, Structures (*simple and complex*), Earthwork, Retaining Walls and Arches.

(*b*). Hydraulics, comprising the Theory of Hydrostatics and Hydrodynamics, the Flow of Liquids through Orifices, Pipes and Canals, the Action of a Stream on inclined or curved Vanes (*fixed or revolving*) Hydraulic Machines (*Pressure Engine, Vertical Water Wheels, Turbines, Centrifugal Pumps*), Pneumatics.

Heat and Heat-Engines.

The course of instruction in this Department will embrace:—The General Description of the Steam Engine, the Theory of Heat, the Application of Heat to Thermal Machines, the Production of Heat and Steam, and also:—

(*a*). The movement and distribution of Steam, including the action of Steam in a Cylinder, the methods and regulation of the distribution of Steam, Systems of Cut-off, the general disposition of Cylinders, Condensers, &c.

(*b*). The modes of transmission and a consideration of certain special machines.

(*c*). The construction of an Engine, under which head will be considered Rivets, Bolts, Screws, Sockets, Keys, Cylinders, Pistons, Organs of Distribution Organs of Transmission.

(*d*). The construction of Special Machines.

Designs, Estimates, &c.

Engineering Students will also prepare designs, specifications, and estimates of such works as are usually undertaken by the Engineer.

Each Student works independently, under the personal supervision of the Professor of Engineering, and makes such drawings and calculations as would be needed were the structure designed to be actually carried out.

II. MECHANICAL ENGINEERING.

Professors BOVEY AND MCLEOD.

Mechanism.

The lectures on Mechanism will treat of:—The object and structure of a machine, conversion and modification of motion, aggregation of motion, velocity ratios, linkwork, the teeth of wheels and trains of wheels, indicator diagrams and measurement of H. P., escapements, connections, various elementary combinations. Shop visitation by the class.

Theory of Machines.

This Branch will comprise :—

(*a*). *The Transmission of Work*, including the measurement of work, the efficiency of machines, dynamical friction, viscosity, and the methods of transmitting work (*by continuous rotation, oscillation, belts, water, and compressed air.*)

(*b*). *The Modification of Work and Stores of Energy*, embracing a study of the actual energy of moving pieces, springs and weights.

(*c*). *Governing and Controlling Machines*, including a consideration of uniform effort, variable resistance, machines driven by fluid pressure, differential governors.

(*d*). *Balancing Machinery.*

Mechanical Work.

A course of lectures will be given on the following specific Departments of Mechanical Engineering, and will treat entirely of the principles and results of actual practice :—The different classes of machinery, Belts, Gearing, Forging, Hammers, the Tempering of Steel, Tools, Vice-work, Fitting and Finishing, Lathes and Lathe-work, Planing, Slotting and Shaping Machines, Boring and Drilling, Milling and Milling tools, Screw-cutting, the Slide-valve, Standard Measures, Gauging Implements, Riveted joints, Fastenings, Pipes and Cylinders, Journals, Bearings, Shafting, Linkwork, Pistons and Stuffing Boxes, Lubricators, Moulding and Founding.

Students before obtaining their degree in this course must present certificates of having been employed for at least eight months in Mechanical work-shops.

III. MINING ENGINEERING.

Professor :—B. J. HARRINGTON, B.A., PH.D.

The object of this course is to give Students a knowledge of the characters and mode of occurrence of various economic minerals, together with the methods employed for their extraction and subsequent treatment.

The lectures on Mining are given during the Third Year, and among the subjects taken up the following may be mentioned :—Blasting and the nature and use of different Explosives, Quarrying, Hydraulic Mining, Boring, the Sinking, Timbering and Tubbing of Shafts, Driving and Timbering of Levels, Underground Conveyance and Hoisting, Drainage and Pumping, Lighting and Ventilation of

Mines, special methods of Exploitation employed in the working of Metalliferous Deposits or of Coal Seams, &c. During this year, also, instruction is given in Blowpipe Analysis, the object of which is to enable Students by means of the blowpipe and a few simple re-agents to detect the nature of different Minerals or Ores. On account of the small quantity of apparatus required, and the rapidity with which accurate results may be arrived at, a knowledge of this subject will be found most useful to those engaged in geological or other field-work.

In the Fourth Year a short course of lectures on Metallurgy is given, and assays are made of various Ores, Fuels, &c.

NOTE.—The lectures on Mining and Metallurgy are illustrated by a series of Models.

IV. DESCRIPTIVE GEOMETRY AND SURVEYING.

Professor:—C. H. McLEOD, MA.E.

Descriptive Geometry.

SECOND YEAR.—(1).—Linear Drawing. (2).—Orthographic projection, including penetrations, developments, sections, etc.

THIRD YEAR.—(1).—Orthographic projection (continued). Tangent planes and normals. Curved surfaces. Graphical determination of spherical triangles. (2).—Spherical projections, including the construction of maps. (3).—Axometric projection. Isometric projection. (4).—Shades and shadows. (5).—Mathematical perspective. Perspective of shades and shadows.

Surveying.

This course is designed to qualify the student for admission to the practice of Provincial and Dominion Land Surveying. It also affords a practical and theoretical training in field engineering.

SECOND YEAR.—Chain Surveying, Compass Surveying. The use and adjustment of the Transit, Theodolite, Level (Dumpy, Y, and other forms), Sextant, Aneroid Barometer, Plane-table and other field instruments. Contour Surveying, Underground Surveying. Plotting practical operations in the field. Calculating areas.

THIRD YEAR.—Topography. Methods of Setting out Work. Curves. Indirect and Barometric Levelling. Hydrographic Surveying. Goedetic Surveying. Practical operations in the field.

NOTE.—The field work is carried out under the personal supervision of the Professor, and is as follows:—(*a*) a chain survey, (*b*) an angular survey, (*c*) a contour survey, (*d*) the location of a line of road, including preliminary surveys, ranging curves, levelling and setting out the work, (*e*) an hydrographic survey. Each student is required to make field notes, and from these to plot all plans and sections required in connection with the above.

At the close of the sessional examinations there is also an optional course for the 3rd year in astronomical observations and triangulations. The former includes latitude, longitude (by lunar culminations), azimuth and time.

FREEHAND DRAWING.

FIRST YEAR.—Instruction in Freehand Drawing is given by Mr. J. H. Bowe.

V. CHEMISTRY AND ASSAYING.

(Laboratory of the Faculty of Applied Science).

Professor :—B. J. HARRINGTON, B.A., PH.D. (Greenshields Professor of Chemistry and Mineralogy).

A course of lectures, illustrated by experiments, is given to all students of he First Year in Applied Sc nce, on t e Laws of Chemical Combination, Chemical Formula and Equations, the preparation and properties of the more important non-metallic and metallic Elements and many of their Compounds, and on the elementary principles of Organic Chemistry. Students taking these lectures must also devote at least one afternoon a week to practical work in the laboratory.

In the Second and Third Years of the Mining Courses instruction will be given in Qualitative and Quantitative Analysis, and Chemistry Students of the latter year will attend a course of lectures on either Theoretical or Organic Chemistry. In the Fourth Year Mining Students will devote themselves chiefly to Mineral Analysis and Assaying, while Practical Chemistry Students may substitute Organic Analysis for these subjects.

VI. PRACTICAL CHEMISTRY.

(Laboratory of the Faculty of Medicine).

Professor :—GILBERT P. GIRDWOOD, M.D.

Advanced students may have the privilege of attending the course of Practical Chemistry in the Laboratory of the Medical Faculty under Dr. Girdwood. Details and conditions will be made known on application.

VII. GEOLOGY.

Professor:—SIR W. DAWSON, LL.D., F.R.S., (Logan Professor of Geology.

Assistant Professor :—B. J. HARRINGTON, B.A., PH.D., F.G.S.

SECOND YEAR.—A preliminary Course in Zoology, with special reference to Fossil Animals.

THIRD YEAR.—Mineralogy, Lithology, Physical and Chronological Geology and Palæontology, Geology of Canada, Methods of Geological Exploration.

FOURTH YEAR.—Special Studies in Mineralogy and Lithology, Advanced Course in General Geology and Palæontology, Geology of Canada, Practical Geology and Field-work.

VIII. BOTANY.

Professor :—D. P. PENHALLOW, B.Sc.

Course.—General Morphology and Classification. Descriptive Botany. Flora of Canada. Nutrition and reproduction of plants. Elements of Histology.

IX. MATHEMATICS AND MATHEMATICAL PHYSICS.

Lecturer :—G. H. CHANDLER, M.A.

The lectures in this course are specially designed to meet the requirements of Students of Applied Science ; those in Mechanics being introductory to Applied Mechanics. The subjects are as follows :—

FIRST YEAR.—(1) Euclid, six books. (2) Loci, Transversals, &c. (3) Algebra, to Progressions. (4) Plane Trigonometry and the use of Mathematical Tables. (5) Elements of Solid Geometry. (6) Geometrical Conic Sections.

SECOND YEAR.—(1) Algebra continued. (2) Analytical Geometry. (3) Differential and Integral Calculus. (4) Mechanics.

THIRD YEAR.—(1) Mechanics continued. (2) Spherical Trigonometry. (3) Spherical and Practical Astronomy. (4) Revision and continuation of Analytical Geometry and Calculus, with applications to Mechanics, &c.

X. EXPERIMENTAL PHYSICS.

Professor :—ALEXANDER JOHNSON, LL.D., (Peter Redpath Professor of Natural Philosophy.)

Students in this Faculty are required to take the course in Experimental Phy sics provided by the Faculty of Arts.

The subjects for the Session 1885-86 are Light and Heat.

XI. ENGLISH LANGUAGE AND LITERATURE.

Professor :—CHARLES E. MOYSE, B.A. (Molson Professor of English Language and Literature.)

FIRST YEAR.—English Language and Literature.

SECOND YEAR.—A special course on English Composition.

THIRD YEAR.—A special course on English Composition.

XII. FRENCH OR GERMAN.

German :—Professor C. F. A. MARKGRAF, M.A.

French :—Professor P. J. DAREY, M.A., B.C.L.

Students of this Faculty are required to take the course in one of these language provided by the Faculty of Arts.

XIII. METEOROLOGY.

Instruction in Meteorological Observations will be given in the Observatory at hours to suit the convenience of Senior Students.

Certificates will be granted to those Students who pass a satisfactory examination on the construction and use of Meteorological Instruments, and on the general facts of Meteorology.

N.B.—Students of the Second, Third and Fourth Years will be required to answer satisfactorily a weekly paper on such subjects of the course as shall be determined by the Faculty.

§ X. TEXT-BOOKS.

Civil Engineering and Applied Mechanics :—Bovey, Rankine, * Collignon, *Weisbach, *Van Buren, Reuleaux.

Machinery, etc. :—Goodeve (new edition), *Willis, Rankine, *Knight, Rose, *Shelley, *Fairbairn, Unwin.

Heat and Heat-Engines:—Maxwell, *Clausius, Rontgen, Wilson, Rankine, Rigg, Marks.

Moulding and Founding :—Overman.

Materials :—Notes on Building Construction, *Gilmore, Thurston.

Descriptive Geometry :—Millar's Descriptive Geometry.

Surveying :—Gillespie's Land Surveying.

Geology :—Dana's Geology ; Dawson's Handbook of Zoology and Lecture Notes on Geology, *Nicholson's Palæontology, *Geological Survey Reports, *Dawson's Acadian Geology.

Mineralogy :—Dana's Manual. *Dana's Descriptive Mineralogy.

Blowpipe Analysis :—Brush's Determinative Mineralogy and Blowpipe.

Botany :—Gray and Bessey.

Chemistry :—Nichol's Abridgment of Eliot and Storer's Manual of Chemistry. Jones' Junior Course of Practical Chemistry. Fresenius' Manuals of Qualitative and Quantitative Analysis. *Watts' Dictionary of Chemistry. *Roscoe & Schorlemmer's Treatise on Chemistry. *Miller's Elements of Chemistry.

Metallurgy :—Greenwood's Manual of Metallurgy.

Assaying :—Ricketts' Notes on Assaying. Chapman's Assay Notes.

Mathematics :—Todhunter's Euclid, Colenso's Algebra (Part 1), Hamblin Smith's Trigonometry, Wilson's Solid Geometry and Conic Sections, Briggs's Analytic Geometry, Peck's Calculus, Goodeve's Principles of Mechanics, Chambers' Practical Mathematics, Chambers' Mathematical Tables.

English :—Smith's English Composition.

TABLE OF LECTURES.

Years	Hours.	Monday.	uesday.	Wednesday.	Thursday.	Friday.
FIRST YEAR.	9			English.	Mathematics.	Mathematics.
	10	Mathematics.	M hematics.			
	11	English.	French.	French.	French.	English.
	12	Chemistry.	German.	Mathematics.	German.	Chemistry.
	2		†Freehand Drawing.			Prac. Chem.
	3					Do
						Do

* *Books of Reference.*

† The Freehand Drawing Class is also held from 9 to 11 on Saturdays.

TABLE OF LECTURES—(*Continued*).

Years	Hours.	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.
Second Year.	9	French.	Materials.	French. German.	Drainage.	{ French. { German.
	10	Surveying.	Botany.†	Surveying.	{ Botany.† { Mathematics.	German.
	11	Mathematics.	Zoology.	Mathematics.	Zoology.	Mathematics.
	12	German.	Exp. Physics.	German.	Exp. Physics.	English.
	2	Prac. Chem.	Mechanism.	Prac. Chem.	Drawing. Prac. Chem.	Mechanism.
	3	Drawing.	Drawing.		Do	Drawing.
	4	Do			Do	Do
Third Year.	9	Theory of Structures.	Materials.	Geology. Machinery.	Drainage.	German.* Machinery.
	10	Geology. Machinery.	French. German.	Mathematics.	French, German. Theor. Chem.	Geology.
	11	Theory of Structures. (Advanced).	English.	German.	Theory of Structures.	
	12	Mathematics.	Exp. Physics.	German.	Exp. Mech.	Mathematics.
	2	Surveying. Prac. Chem. Drawing.	Theory of Structure.	{ Blowpipe { Analysis.	Prac. Chem. Drawing. Surveying.	Theory of Structures.
	3	Surveying.	Drawing.		Drawing.	Drawing.
	4	Mech. Work Drawing.	Drawing. Mining.		Mech. Work. Drawing.	Do
Fourth Year.	9	Theory of Structures.	Materials.	Designing.	Drainage.	Designing.
		Theory of Structures.	Designing.	Do	Theory of Structures.	Designing.*
	11	Theory of Struct's.(adv.) Geology.*	Do	Geology.*	Theory of Structures. (Advanced.)	Geology.*
	12	Machinery. Mathematics.	Do		Machinery.	Mathematics.
	2	Prac. Chem. Assaying. Designing.	Theory of Structures. Prac. Chem.	Prac. Chem.	Prac. Chem. Assaying. Designing.	Theory of Structures.
	3	Do	Hydraulics ( ) Steam (*a*)		Do	Hydraulics.(*a*) Steam (*a*)
	4	Do	Do	Metallurgy.*	Do	

* For Mining and Chemistry Students. (*a*) Steam during first term; Hydraulics during cond term.

Field work for Students of the 2nd year on Mondays, Tuesdays, Wednesdays and Thursdays: for Students of the Third Year on Mondays, Wednesdays and Thursdays, during the months o September and October.

† For Practical Chemistry Students.

Faculty of Medicine.

THE PRINCIPAL (ex-officio).

Professors :—	Professors :—
WRIGHT,	RODDICK,
HOWARD,	GARDNER,
MCCALLUM,	SHEPHERD,
CRAIK,	BULLER,
FENWICK,	BROWNE,
DRAKE,	STEWART,
GIRDWOOD,	WILKINS,
ROSS,	PENHALLOW.

Dean.—R. P. HOWARD, M.D.

Registrar.—J. STEWART, M.D.

The fifty-third session of the Faculty will be opened on Thursday, October 1st, 1885, by an introductory lecture at 3 p.m. The regular lectures will begin on October 2nd, at the hours specified in the time table, and will be continued for six months.

The Medical School of McGill University was founded in 1824 as the "Medical Institution" by Drs. John Stephenson, Andrew F. Holmes, William Robertson and William Caldwell. In 1829 the Medical Institution became the Medical Faculty of McGill College. There were no sessions during the political troubles from 1836 to 1839, and it is owing to this gap that the present is the 53rd session of the Faculty. In reality this is the 57th session of the school, which is the direct continuation of the Medical Institution.

The Faculty have great pleasure in announcing that by arrangements made with the Board of Governors of the University an addition to the medical building is being constructed which will

double its capacity, and at the same time important improvements in the old building are also being effected. These changes will be completed before the session opens on the first of October.

The necessity for additional accommodation has been brought about by the great increase in the number of students. It is also the desire of the Faculty to make the practical and scientific teaching of all the primary and third year branches in future a more prominent feature of the Medical Students' training in this University, and equal to that of the more advanced European Schools. With this end in view the old laboratories for Chemistry and Physiology are to be much enlarged and refurnished, while new ones for Pathology, Histology and Pharmacology are in course of erection —all of which will be fitted according to the more modern methods for the practical prosecution of studies in these different branches.

The Dissecting Room which is being considerably enlarged, will be refurnished and lighted by electricity. In connection with it there will be a "Bone Room," and the private rooms and museum of the Professor and Demonstrators of Anatomy.

The Pathological Laboratory will be furnished in such a way as to contain all instruments and apparatus necessary for the more advanced students and graduates who wish to engage in private pathological research. The various morbid specimens obtained from the General Hospital and other sources will be demonstrated to the students in this Laboratory or in a small lecture room specially fitted up for demonstration purposes.

The classes engaged in Pathological Histology will make use of the Histological Laboratory when pursuing this subject.

The Physiological Laboratory will be fitted up with the most modern apparatus, much of which has been specially prepared in Germany and England for this institution. It will contain amongst other valuable instruments, kymographs, various manometers, etc., for demonstrating blood pressure, myographs rheocords, moist chambers, etc., and various electrical appliances for demonstrating experiments in connection with nerve and muscle, special apparatus for illustrating various points in respiration ; apparatus specially suitable for demonstrating the processes of digestion as well as the chemical composition and action of the secretions, and the

chief constituents of the tissues and nutritive fluids. The laboratory will be arranged in such a way as to permit of the students helping and taking part in these demonstrations.

The Histological Laboratory will be furnished with thirty microscopes all from the well known makers, Zeiss, Hartnack and Leitz. From the large number of microscopes employed, students will have special facilities in studying and making themselves thoroughly acquainted with the specimens that are the subjects of demonstration. Students attending the practical class will have unusual facilities for preparation of specimens.

The Pharmacological Laboratory will contain all the instruments and appliances necessary for the conducting of experimental investigations into the action of drugs on the different systems of the body. Courses on practical pharmacy will also form a feature of the future teaching of materia medica in this institution.

In the new building there will be one small and two large lecture theatres, the latter being so constructed as to seat comfortably 300 students each, while the former is intended for demonstration courses, and where the number of students does not exceed fifty.

Besides considerable additions to the museum and library there will be a students' reading room on the ground floor.

The class tickets for the various courses are accepted as qualifying candidates for examination before the various Colleges and Licensing bodies of Great Britain and Ireland, and the College of Physicians and Surgeons of Ontario. The degree in Medicine of this University carries with it at the Licensing Boards of Great Britain the same exemptions in certain subjects as are granted to all colonial degrees.

To meet the circumstances of the General Practitioners in British North America, where there is no division of the profession into Physicians and Surgeons exclusively, the degree awarded upon graduation is that of "Doctor of Medicine and Master of Surgery," in accordance with the general nature and character of the curriculum, as fully specified hereafter. The degree is received by the College of Physicians and Surgeons of the Province of Quebec.

It affords the Faculty great satisfaction to be able to announce that their efforts to secure an endowment have been successful. As the lists on a previous page show, over $50,000 have been subscribed to the

Campbell Memorial Fund; and the Hon. Donald A. Smith on August 1st, 1883, redeemed his promise by handing over to the Governors for the use of the Faculty $50,000, to be known as the "Leanchoil Endowment."

The Faculty take this opportunity of publicly expressing its sincere thanks to the benefactors to whom the University and the cause of Medical education are thus indebted. It is also extremely gratifying to the Faculty to feel that the memory of its late Dean should have received such a lasting tribute and that his name should be thus permanently associated with the school he loved, as well as through the liberal gift of Mr. Geo. Stephen, with the Hospital he so long served.

I.

MATRICULATION.

It is very important that intending Students should bear in mind the following:

(1) *That if natives of Ontario, and if they wish to obtain the licences of that Province, they must conform to the regulations regarding the Preliminary Examination, and register before beginning their Medical Studies.*

(2) *If natives of the Province of Quebec, they must pass the Matriculation Examination of the Quebec Medical Board.*

(3) *Natives of the Maritime Provinces and of Manitoba, may present themselves before the Local Medical Boards for the Preliminary Examination. Where the Examination and Standard are equivalent to those of the University, a certificate (bearing the standing of the candidate in the various subjects) will be accepted, and the student may register without further examination or fee.*

Graduates in Arts are exempt from the Matriculation.

(*a*).—UNIVERSITY MATRICULATION EXAMINATION.

This examination is the same as that recommended by the Medical Council of Great Britain. Examinations in conformity therewith will be held the last Friday and Saturday in March and the last Friday

and Saturday in September of each year. Applications may be made to the Registrar of the Faculty till the evening of the previous day The requirements of the standard for Matriculation are :—(1) English Language, including Grammar and Composition.* (2) English History. (3) Modern Geography. (4) Latin, including Translation from the original and Grammar. (5) Elements of Mathematics, comprising (*a*) Arithmetic, including Vulgar and Decimal Fractions; (*b*) Algebra, including simple Equations: (*c*) Geometry, including the first two books of Euclid or the subjects thereof. (6) Elementary Mechanics of Solids and Fluids, comprising the elements of Statics, Dynamics and Hydrostatics. (7) One of the following optional subjects :—(*a*) Greek, (*b*) French, (*c*) German, (*d*) Italian, (*e*) any other modern language, (*f*) Logic, (*g*) Botany, (*h*) Elementary Chemistry.

TEXT-BOOKS.—Latin,—Cicero, Orations 1 and 2 against Cataline; or Virgil, Æneid, Bk. I.

GREEK.—Xenophon, Anabasis, Bk. I., or equivalent.

FRENCH.—Charles XII., Two Books.

NATURAL PHILOSOPHY.—Ganot's Physics.

BOTANY.

ELEMENTARY CHEMISTRY.

---

* The ability of the candidate will be fully tested in the following :—"(1) To write sentences in English on a given theme, attention being paid to spelling and punctuation as well as to composition; (2) to write correctly from dictation; 3) to explain the grammatical construction of sentences; (4) to point out the grammatical errors in sentences ungrammatically composed, and to explain their nature; and (5) to give the derivation and definition of English words in common use."

(*b.*)—MATRICULATION EXAMINATION OF THE COLLEGE OF PHYSICIANS AND SURGEONS OF QUEBEC.

COMPULSORY SUBJECTS.

LATIN.—Cæsar's Commentaries, Book V,—Virgil's Æneid, Book V.—The Odes of Horace, Book 1.

ENGLISH—Sprague's "Six Selections from Washington Irving's Sketch Book."—A play of Shakespere's, viz., "The Tempest," for 1884; Richard III., for 1885; and "The Midsummer Night's Dream," for 1886.

FRENCH—Fénélon's "Aventures de Télémaque."—A French play, viz., Corneille's "Le Cid," 1884; Moliere's "Le Misan thrope," 1885, and Racine's "Esther" for 1886.

BELLES LETTRES.—Principles of the subject. History of the Literature of the age of Pericles in Greece, of Augustus in Rome, of Elizabeth in England, and Louis XIV. in France.

HISTORY.—Outlines of the History of Greece and Rome, with particular knowledge of England, France and Canada.

GEOGRAPHY.—A general view, with particular knowledge of England, France and North America.

ARITHMETIC.—Must include Vulgar and Decimal Fractions, Simple and Compound Proportion, Interest and Percentages, and Square Root.

ALGEBRA.—Must include Fractions and Simultaneous Equations of the First Degree.

GEOMETRY.—Euclid, Books I., II., III., or the portion of plane Geometry covered by those Books. Also the measurement of the lines, surfaces and volumes, of regular geometrical figures.

OPTIONAL SUBJECTS.

GREEK.—Xenophon's Anabasis, Book I.—Homer's Iliad, Book I.

PHYSICS.—Outlines of the subject as in Ganot's Physics, translated by Atkinson.

PHILOSOPHY.—Elements of Logic and of Moral Philosophy, as in Jevon's Logic and Calderwood's Hand-book of Moral Philosophy.

The Examinations will be held upon the 18th of September, 1885.

at Quebec, and on the 7th of May, 1886, at Montreal. Applications to be made to Dr. F. W. Campbell, Montreal, or Dr. Belleau, Quebec, either of whom will furnish schedule giving text books and percentage of marks to be obtained.

Examination Fee, ten dollars. Should the candidate be unsuccessful, one half of the fee will be returned.

Every one desirous of being registered as a Matriculated Medical Student in the Register of this College, except as hereinafter provided, must present to the Register the official certificate of having passed the 3rd class non-professional examination with Latin; whereupon he shall be entitled to be so registered upon the payment of twenty dollars and giving proof of his identity.

(*c*) MATRICULATION EXAMINATION OF THE COLLEGE OF PHYSICIANS AND SURGEONS OF ONTARIO.

Of the four years study *after* having passed the Matriculation Examination, three six months' sessions, at least, must be attended at a University, College, or Incorporated School of Medicine, recognized by the "Provincial Medical Board." The first session must be attended during the year immediately succeeding the Matriculation Examination, and the final session must be in the 4th year.

Graduates in Arts, or Students having matriculated in Arts in any University in her Majesty's Dominions are not required to pass this Examination, but may register their names with the Registrar of the College, upon giving satisfactory evidence of their qualifications and upon paying the fee of twenty Dollars.

II.

ENREGISTRATION AND PAYMENT OF FEES.

The following are the University Regulations:

All Students desirous of attending the Medical Lectures shall, at the commencement of each Session, enrol their names and residences in the Register of the Medical Faculty, and procure from the Registrar a ticket of Enregistration, for which each Student shall pay a fee of $5; excepting in the Clinical Classes, in which Enregistration for Students of other Schools shall not be compulsory.

The said Register shall be closed on the last day of October in each year. The fees are payable to, and all class tickets will be issued

by, the Registrar, and must be paid in advance (except under special circumstances) at the time of enregistration.

Enregistration in the Summer Session is compulsory upon all Students, whether attending one or more of the Classes.

III.

COURSES OF LECTURES.

ANATOMY.

PROFESSOR FRANCIS J. SHEPHERD.

Anatomy will be taught in the most practical manner possible, and its relation to Medicine and Surgery will be fully dwelt on. The lectures will be illustrated by the fresh subject, moist and dry preparations, sections, models, and plates and drawings on the blackboard.

PRACTICAL ANATOMY.

Demonstrator.....RICHARD L. MACDONNELL.

Assistant Demonstrators..... { WILLIAM R. SUTHERLAND. R. J. B. HOWARD.

Special attention is devoted to this important branch, the teaching being similar to that of the best European schools. The Dissecting-Room is open from 8 a.m. to 10 p.m.; the Demonstrators' hours are from 10 to 12 a.m., and 8 to 10 p.m. Special Demonstrations on the Brain, Thorax, Abdomen, Bones, etc., are frequently given. Every Student must be examined *at least* three times on each part dissected, and if the examinations are satisfactory a certificate is given. Prizes are awarded at the end of the Session for the best examination on the fresh subject. Abundance of material provided.

CHEMISTRY.

PROFESSOR GILBERT P. GIRDWOOD.

Inorganic Chemistry is fully treated; a large portion of the course is devoted to Organic Chemistry and its relations to Physiology. The branches of Physics bearing upon or connected with Chemistry also engage the attention of the Class. For experimental illustration abundant apparatus is possessed by the College.

The Chemical Laboratory will be open to members of the class to repeat experiments exhibited during the course, under the superintendence of the Professor or his Assistant.

PRACTICAL CHEMISTRY.

PROFESSOR GILBERT P. GIRDWOOD.

ASSISTANT R. F. RUTTAN.

Thorough instruction is given in the different departments of Practical Chemistry in the Laboratory of the Faculty, under the personal supervision of the Professor. The course includes blow-pipe manipulations, qualitative and quantitative analysis, toxicological investigations, &c., &c. This class may be taken in the Summer Session.

PHYSIOLOGY.

LECTURER T. W. MILLS.

(1) A full course of didactic lectures upon the structure and functions of the various organs of the body in health. The lectures are illustrated by fresh preparations, diagrams, plates and models, and by experiments with apparatus.

(2) Practical Physiology :—In addition to the demonstrations in the Lecture room, the senior members of the class have an opportunity of attending the following : (*a*) Physiological chemistry weekly until Christmas, in which class each student works over the essentials of the chemistry of digestion, the secretions and the urine, (*b*) A special demonstration course in Experimental Physiology, weekly after Christmas, with the use of apparatus.

HISTOLOGY.

PROFESSOR GEO. WILKINS.

This will consist of a course of ten lectures and twenty-five weekly demonstrations with the Microscope. As the demonstrations will be chiefly relied upon for teaching the Microscopic Anatomy of the various structures, the specimens under observation will then be minutely described. Plates and diagrams specially prepared for these lectures will be freely made use of.

Practical Histology.—This is an optional course given by Prof. Wilkins for the purpose, more especially, of teaching Microscopy.

It will consist of twenty-five lessons of two hours each. Each Student will be provided with a Microscope and shewn how to use it, and also how to cut, stain and mount specimens for microscopical investigation.

For the purpose of enabling students to observe the different effects of staining, &c., on diseased and healthy structures, a few diseased specimens will be given them to prepare, at the latter part of the course. Students are at liberty to keep all the specimens they prepare. One of the great advantages of this course is that Students will be able to collect a cabinet of 100 or more specimens for reference at any time; these, besides being of great help to them during their College course they will find especially useful when in active practice for the purpose of comparison with diseased growths. Reagents, and everything except cover-glasses and cabinet cases, provided. Fee $12.

MATERIA MEDICA.

PROFESSOR JAMES STEWART.

The course on this subject deals for the most part with the pharmacology and therapeutics of the different medicinal agents. A good deal of attention will be given to the "untoward effects" of drugs, and when possible these effects will be illustrated by the exhibition of living specimens.

The leading officinal agents of the British Pharmacopœia will be fully considered, as will also those drugs of recent introduction into practice which have been found useful, but have not, as yet, found their way into the Pharmacopœia. The following groups of medicinal agents will, on account of their great importance, receive special attention:—(1) Cardiac Tonics, (2) Cardiac Depressants, (3) Motor Stimulants, (4) Motor Depressants, (5) Anæsthetics, (6) Analgesics, (7) Mydriatics, (8) Alteratives, (9) Hæmatinics, (10) Astringents, (11 Purgatives,) (12) Digestants, (13) Nutritives, (14) Antiseptics, (15) Antipyretics, (16) Diuretics.

Elector therapeutics will also be dealt with.

MEDICINE.

PROFESSOR R. PALMER HOWARD.

While the lectures on this subject are mainly devoted to Special Pathology and Therapeutics, no opportunity is lost of illustrating and

explaining the *general* laws of disease. With the exception of certain affections seldom or never observed in this country, all the important internal diseases of the body, except those peculiar to Women and Children, are discussed, and their Pathological Anatomy illustrated by the large collection of morbid preparations in the University Museum, and by fresh specimens contributed by the Demonstrator of Morbid Anatomy.

The College possesses an extensive series of Anatomical plates illustrative of the histological and anatomical appearances of disease and the wards of the General Hospital afford the lecturer ample opportunities to refer to living examples of very many of the maladies he describes, and to give the results of treatment.

CLINICAL MEDICINE.

PROFESSOR GEORGE ROSS.

Attendance is given in the Medical Wards of the Montreal General Hospital on three days of every week with the 3rd year students and three days with those of the 4th year. Accurate reports of all cases are kept by duly appointed clinical clerks, and are systematically read before the class. Instruction is given at the bedside, and special inducements are offered to every pupil to take part in the physical examination of patients. The mode of conducting investigations, the use of the microscope, the value of the thermometer and ophthalmoscope, etc., in Medical Diagnosis, are all explained and illustrated. Senior Students are called upon in rotation to examine new cases before the class, and to be examined thereon as to their general knowledge. In addition, one weekly Clinical Lecture is delivered, bearing upon some case or cases of importance which may happen to be under observation at the time. Special attention is directed to Medical Anatomy, and candidates for the degree will be examined thereon.

SURGERY.

PROFESSOR GEO. E. FENWICK.

The first part this course consists of Surgical Pathology, illustrated by a large collection of preparations from the College Museum, also specimens as they are obtained from cases

under observation at the Hospital, and contributed to that collection by the Hospital pathologist and from private sources. The second part of the course is devoted to the practice of Surgery, in which attention is drawn to cases which have been observed by the class during the previous summer session. The various surgical appliances are exhibited, and their uses and application explained. Surgical Anatomy and Operative Surgery form a special department of this course, and Quain's and Maclise's plates are used in illustration.

CLINICAL SURGERY.

PROFESSOR THOMAS G. RODDICK.

This course is eminently practical, consisting of bedside instruction and lectures delivered weekly, illustrative of surgical cases actually present in the wards of the General Hospital. The class is separated into junior and senior divisions which are taken charge of by the Professor on alternate days, when the reports of the Clinical clerks are read and criticized, and fresh cases are examined by the senior students. The surgical dressings are, as much as possible, reserved for these occasions, so as to give all present an opportunity of participating in the application of splints to fractures dressing of wounds, minor operations, etc. Major operations are performed in the theatre attached to the Hospital, which is so constructed that the most distant can obtain a fair view of the operation. All the recently invented appliances for the treatment of surgical disease have been introduced into the Hospital.

MIDWIFERY.

PROFESSOR A. A. BROWNE.

This course will embrace (1) Lectures on the principles and practice of the obstetric art, illustrated by diagrams, fresh and preserved specimens, the artificial pelvis, &c. (2) Bedside instruction in the University Maternity, including the management and after-treatment of cases. (3) A complete course on obstetric operations with the phantom and preserved fœtuses, in which each final student will perform the various manipulations and operations. (4) The Diseases of Infancy.

GYNÆCOLOGY.

PROFESSOR WM. GARDNER.

The course on this subject will comprise two lectures a week throughout the session. The anatomy and physiology of the parts concerned will be first discussed. Then the various methods of examination will be fully described, the necessary instruments exhibited and their uses explained. After this the diseases peculiar to the sex will be considered as fully as time will permit, in the following order :—Disorders of Menstruation; Leucorrhœa, its causes and treatment; Pelvic Cellulitis and Peritonitis; Lacerations of the Cervix Uteri and Perineum; Urinary and Fæcal Fistulæ; Inflammations of the Uterus; Displacements of the Uterus; Tumors of the Uterus; Diseases of the Ovaries.

The lectures will be illustrated as fully as possible by drawings and morbid specimens. The gynæcological clinic of the General Hospital furnishes the Professor with ample material to illustrate the subjects considered in the didactic lectures.

MEDICAL JURISPRUDENCE.

PROFESSOR GEO. WILKINS.

This course includes Insanity, the subject being treated of in its Medical as well as Medico-legal aspects. Special attention is devoted to the subject of blood stains, the Clinical, Microscopic and Spectroscopical tests for which are fully described and shown to the class. The various spectra of blood in its different conditions are shewn by Zeiss' Microspectroscope, so well adapted for showing the reactions with exceedingly minute quantities of suspected material. Recent researches in the diagnosis of human from animal blood are alluded to. In addition to the other subjects usually included in a course of this kind, Toxicology is taken up. The modes of action of poisons, general evidence of poisoning and classification of poisons are first treated of, after which the more common poisons are described, with reference to symptoms, post-mortem appearances, and chemical tests. The post-mortem appearances are illustrated by plates, and the tests are shown to the Class.

OPHTHALMOLOGY AND OTOLOGY.

PROFESSOR FRANK BULLER.

Will include a course of lectures on diseases of the Eye and the Ear, both Didactic and Clinical. In the former the general principles of diagnosis and treatment will be dealt with; in the latter, cases illustrative of the typical forms of ordinary diseases of these organs will be exhibited and explained to the class, and afterwards placed under the special care of gentlemen who may show themselves competent to take charge of them. A course of Operations on the cadaver will be open to such Students as may wish to avail themselves of the same.

HYGIENE.

LECTURER R. L. MACDONNELL.

A three months' course of Lectures will be delivered on this subject, the attendance upon which is now compulsory. The course comprises lectures on Drinking Water and Public Water supplies; conditions of Soil and Water as affecting health, including Drainage and the various methods for the removal of Excreta; the Atmosphere, including Heating and Ventilation; Individual Hygiene, comprising the subjects of Food and Drink; Physical Exercise and Bathing; discussion of the respective merits of the various forms of each, precautions, contra-indications, etc. Village Sanitary Associations; Mutual Protective Sanitary Associations for cities.

BOTANY.

PROFESSOR D. P. PENHALLOW.

The course in Botany is illustrated by specimens, diagrams, models, and the microscope. It will include General Morphology, and Classification; Descriptive Botany; Flora of Canada; Nutrition and reproduction, of plants; Elements of Histology.

Students of the first year have access without any additional fee to the lectures in Zoology, in the Faculty of Arts, and to the Natural History Museum of the University and the Museum of the Natural History Society of Montreal.

PATHOLOGY.

DEMONSTRATOR W. G. JOHNSTON.

(1) Twenty lectures on General Pathology to the students of the 3rd year.

(2) Pathological Demonstrations—weekly—Saturday, 10 a.m. This course is based upon, and conducted, as far as possible, in the same way as that of Prof. Virchow, at the Berlin Pathological Institute. Specimens of all kinds are collected throughout the week, kept until Saturday, and then brought before the class, when practical comments are made upon them.

(3) Instruction in Post-Mortems—The Autopsy Room of the General Hospital is in charge of the Demonstrator, and the post-mortems are performed by the Students in rotation, under his supervision. System and thoroughness in inspection are insisted upon, the method followed being that of Virchow. As far as possible, attention is drawn to the Medical Anatomy of the thoracic and abdominal organs. In connection with this course, aided by the Professor of Medical Jurisprudence, two Coroners' Inquests will be conducted during the Session before the class, and the Medico-legal aspects of post-mortems dwelt upon.

EXTRACTS FROM THE UNIVERSITY REGULATIONS WITH RESPECT TO THE COURSES OF LECTURES.

1st. Each Professor shall deliver at least five Lectures during the week, except in Medical Jurisprudence and Botany, if extended through six months, in which case three Lectures a week will suffice.

2nd. Every Lecture shall be of one hour's duration.

3rd. Every Professor shall occasionally examine his class upon the subjects treated of in his preceding Lectures, and every such examination shall be considered a Lecture.

4th. A roll of the names of the Students attending each class shall be called from time to time.

IV.

QUALIFICATIONS FOR THE DEGREE.

The following are extracts from the Regulations respecting the qualifications of Candidates for the Degree in Medicine:

No one entering after October first, 1884, will be admitted to the Degree of Doctor of Medicine and Master of Surgery, who shall not have attended Lectures for a period of at least four six months' sessions and one three months' summer session* in this University, or some other University, College or School of Medicine, approved of by this University.

* To be taken after 3rd winter session.

2nd. Candidates for Final Examination shall furnish Testimonials of attendance on the following branches of Medical Education, viz. :—

Anatomy.	*Of which two Courses will be required of six months' duration.*
Chemistry.	
Materia Medica and Pharmacy.	
Institutes of Medicine.	
Principles and Practice of Surgery.	
Midwifery and Diseases of Women and Children.	
Theory and Practice of Medicine.	
Practical Anatomy.	
Clinical Medicine.	
Clinical Surgery.	
Medical Jurisprudence.	*Of which one Course of six months or two Courses of three months will be required.*
Practical Chemistry.	*Of which one Course will be required of three months' duration.*
Botany or Zoology.	
Hygiene.	

And a Course of not less than twenty-five Demonstrations upon Microscopic Anatomy, Physiology, and Pathology.

Provided, however, that Testimonials equivalent to, though not precisely the same, as those above stated may be presented and accepted.

3rd. The Candidates must give proof by ticket of having attended during eighteen months the practice of the Montreal General Hospital, or that of some other Hospital approved of by this University, and have compounded medicines for six months.

4th. He must also give proof by ticket of having attended for at least six months the practice of the University or other Lying-in-Hospital approved of by this University, and of having attended at least six cases of accouchement.

5th. No one will be permitted to become a Candidate for examination who shall not have attended at least one Session of this University, and one full course of all the branches included in its curriculum.

6th. Courses of less length than the above will only be received for the time over which they have extended.

7th. Every Candidate for the Degree must, on or before the fifteenth of February, present to the Registrar of the Medical Faculty testimonials of his qualifications, entitling him to an examination, and must at the same time deliver to the Registrar of the Faculty the following Certificate :—

MONTREAL,———18—

I, the undersigned, being desirous of obtaining the Degree of Doctor of Medicine and Master of Surgery, do hereby declare that I have attained the age of twenty-one years, or (if the case be otherwise), that I shall have attained the age of twenty-one years before the next graduation day, and that I am not (or shall not be at that time) under articles as a pupil or apprentice to any Physician, Surgeon, or Apothecary. (Signed), A.B.

8th. The trials to be undergone by the Candidate shall be such as are referred to under Section V.

9th. The following Oath or affirmation will be exacted from the Candidate before receiving his degree:

SPONSIA ACADEMICA.

In Facultate Medicinæ Universitatis.

Ego, A———B———, Doctoratus in Arte Medica, titulo jam donandus, sancto coram Deo cordium scrutatore, spondeo;—me in omnibus grati animi officiis erga hanc Universitatem, ad extremum vitæ halitum, perseveraturum; tum porro artem medicam caute, caste, et probe exercitaturum; et quoad in me est, omnia ad ægrotorum corporum salutem conducentia, cum fide procuraturum; quæ denique, inter medendum, visa vel audita silere conveniat, non sine gravi causa vulgaturum. Ita præsens mihi spondenti adsit Numen.

10th. The Fee for the Degree of Doctor of Medicine and Master of Surgery shall be thirty dollars, to be paid by the successful candidate immediately after examination, together with a Registration fee of one dollar.

V.

EXAMINATIONS.

In each class a weekly examination is held to test the progress of the Student; and in addition two or three written examinations are given throughout the Session.

The examinations at the close of each Session are arranged as follows:

1st Year.

Pass Examination in HISTOLOGY and BOTANY.

Sessional Examination in ANATOMY, CHEMISTRY and PHYSIOLOGY.

Marks will be allowed for the Sessional Examination which count in the Pass Examination of the following year.

2nd Year.

Pass Examination in ANATOMY, CHEMISTRY, PRACTICAL CHEMISTRY and PHYSIOLOGY.

Sessional Examination in Materia Medica and Therapeutics.

Marks will be allowed for the Sessional Examination which count in the Pass Examination of the following year.

3rd Year.

Pass Examination in MATERIA MEDICA and THERAPEUTICS, MEDICAL JURISPRUDENCE, HYGIENE and PATHOLOGY.

4th Year.

Pass Examination in MEDICINE, SURGERY, OBSTETRICS, CLINICAL MEDICINE, CLINICAL SURGERY.

By means of the above arrangement a certain definite amount of work must be accomplished in each year, and an equitable division is made between the Primary and Final branches.

With regard to the Primary Examination at the end of the 2nd Year, it remains optional with the Student whether he passes in all the branches or leaves two for the 3rd Year. In any case, Chemistry and one other must be taken at the close of the 2nd Year.

VI.

MEDALS AND PRIZES.

1st. The Holmes Gold Medal, awarded to the Student of the graduating class who receives the highest aggregate number of marks for the best examinations, written and oral, in both Primary and Final Branches.

The Student who gains the Holmes Medal has the option of exchanging it for a Bronze Medal, and the money equivalent of the Gold Medal.

2nd. A Prize in books awarded for the best examination, written and oral, in the Final Branches. The gold medalist is not permitted to compete for this prize.

3rd. A Prize in books awarded for the best examination, written and oral, in the Primary Branches.

4th. The Sutherland Gold Medal, awarded for the best examination in Theoretical and Practical Chemistry, together with creditable examination in the Primary Branches.

5th. A Prize in books for the best examination in Practical Anatomy.

Prizes in Botany.

A Prize in books for the best examination.

*A Prize of $20 for the best named collection of Canadian plants

* This Prize is open to both Medical and Arts Students. The plants entered in competition must be deposited in the Museum Collection.

VII.

FEES.

Distributed according to years, the class fees are as follows:

FIRST YEAR.

Anatomy	$12 00
Physiology	12 00
Histology	6 00
Chemistry	12 00
Practical Anatomy	12 00
Botany	5 00
Dissecting Material	5 00
Enregistration	5 00
Total	$69 00

SECOND YEAR.

Anatomy	$12 00
Practical Anatomy	12 00
Physiology	12 00
Chemistry	12 00
Practical Chemistry	12 00
Materia Medica	12 00
Hygiene	6 00
Dissecting Material	5 00
Enregistration	5 00
	$88 00

THIRD YEAR.

Medicine	$12 00
Materia Medica	12 00
Clinical Medicine	12 00
Surgery	12 00
Clinical Surgery	12 00
Midwifery and Gynæcology	12 00
Med. Jurisprudence	10 00
Pathology	10 00
Enregistration	5 00
Total	$97 00

FOURTH YEAR.

Medicine	12 00
Surgery	12 00
Clinical Medicine	12 00
Clinical Surgery	12 00
Midwifery and Gynæcology	12 00
Enregistration	5 00
	$65 00

HOSPITAL FEES.

Montreal General Hospital, Perpetual Ticket	$20 00
University Dispensary	Free
University Maternity	8 00
	$28 00
Graduation Fee	$30 00
Matriculation Fee, payable only if the Student takes the University Matriculation	$5 00
Total Collegiate and Hospital expenses, spread over four years, about	$375

It is to be understood that a Student wishing to take any other class than those of his year can do so on payment of the class fee.

Fees are payable in advance, to the Registrar, at the time of enregistration.

VIII.

TEXT BOOKS.

Prices current in Montreal.

ANATOMY.—Gray, $6; Wilson, $4; Quain (Eng. Ed.) $9.75.

PRACTICAL ANATOMY.—Heath's Dissector, $4.50; Ellis' Dissector, $4.25; Holden's Dissector, $5.00; and Landmarks, $1.00.

CHEMISTRY.—Fownes, $2.25; Miller, $1.00; Roscoe, $1.20.

PRACTICAL CHEMISTRY.—Odling, $1.75; Galloway, Fresenius, $5.00.

MATERIA MEDICA and THERAPEUTICS.—Wood, $6.00; Lauder Brunton, $5.00; Scoresby Jackson, $3.75; Whitla, $3.50.

PHYSIOLOGY.—Huxley's *Elementary Lessons*, $1.35; with either Dalton (7th Edit. $5.00); Kirke, $4.25 or Foster (Am. Edit., $3.25), Yeo.

PATHOLOGY.—Virchow on Post-Mortems, $1.60; Green, $2.50.

HISTOLOGY.—Klein's Elements, $1.50.

SURGERY—Holmes' Surgery, (Eng. Ed.) $9.00; Erichsen, $8.50; Druitt, $4.00; Bryant, $6.50.

PRACTICE OF MEDICINE.—Flint, $5.50; Roberts, $5.00; Bristowe, $5.00; DaCosta, $6.00.

MEDICAL JURISPRUDENCE.—Husband, $3.25; Guy and Ferrier, $3.75.

MIDWIFERY.—Lusk, $5.00; Playfair, $4.00; or Leishman, $4.50.

GYNÆCOLOGY.—Edis, $3.00; Goodell's Lessons, $4.00; Hart and Barbour's Manual, $7.50.

HYGIENE.—Parks, $5.50; Wilson (Eng. Ed.) $3.25.

IX.

MUSEUM.

Most of the usual Pathological Specimens are collected here, obtained from Hospital and private practice. They are largely used in illustrating the lectures on Medicine and Surgery. There are also wax and papier-maché models.

During the past few years numerous and extremely important additions have been made to the Medical Museum.

It is particularly rich in specimens of Aneurisms. In addition to containing a large number of the more common varieties of these formations, there are specimens of such rare conditions as Aneurism of the Hepatic and Superior Mesenteric Arteries, Traumatic Aneurism of the vertebral, together with several of the cerebral and pulmonary arteries. The most important collection probably in existence of hearts affected with "Malignant Endocarditis" is also found. The Faculty are indebted to Prof. Osler, late of this University, for this collection.

Specimens representing morbid alterations of the liver included Cirrhosis, Hydatids, Cancer, Abscess, Suppurative Hepatitis following Aneurism of the Hepatic Artery. This Section also contains a large number of Biliary Calculi.

Intestines and Peritoneum.—Specimens illustrating the Morbid Anatomy of Typhoid Fever, Tropical Dysentery, Ulceration, and Malignant Disease.

Kidneys.—Besides the various forms of Bright's Disease, there are a number of specimens of Surgical and Cystic Kidneys, together with two specimens of Myelo-Sarcoma. A fine collection of Urinary Calculi, made by Dr. Fenwick, is also the property of the Museum.

Bones and Joints.—Specimens illustrating the various injuries and diseases of the Bones and Joints.

Nervous System.—In this section are included a most beautiful collection of Brains prepared by Dr. Osler after the method of Giacomini. Besides those illustrating pathological defect, there are specimens of the brains of horse, cow, dog, cat, pigeon, goose. lion, bear, seal, &c. The Museum also contains a small collection of human abnormalities made by Dr. Shepherd during the time he was Demonstrator of Anatomy.

X.

LIBRARY.

The Library of the Medical Faculty now comprises between nine and ten thousand volumes, the largest special library connected with any medical school on the continent.

The standard text-books and works of reference, together with complete files of the leading periodicals, are on the shelves. Students may obtain books on making a deposit of $5.00, which is refunded on returning the volumes.

XI.

McGILL MEDICAL SOCIETY.

This Society, composed of enregistered Students of the Faculty meets once a week during the Summer Session, and fortnightly during the Winter, for the reading of papers and the discussion of medical subjects. It is presided over by a physician chosen by the members.

A reading room has been established in connection with the Society, in which the leading English and American Medical Journals are on file.

XII.

COST OF LIVING, &c.

This will, of course, vary with the tastes and habits of the Student, but the necessary expenses need not exceed those in smaller towns. Good Board may be obtained from $15 to $20 per month. A list of Boarding-houses is prepared annually by the Secretary of the University, and may be procured from the Janitor at the Medical College.

XIII.

HOSPITALS.

MONTREAL GENERAL HOSPITAL.

The Montreal General Hospital is the most extensive clinical field in the Dominion. A much larger number of in-door and out-door patients receive treatment there than in any other Canadian Hospital. Last year's report shows that 2347 Medical and Surgical cases were treated in the wards, and the great proportion of these were acute cases, as may be gathered from the fact that the average duration of residence was only 23.6 days.

The large number of out-door patients that are treated in the Hospital—averaging from sixty to seventy daily—supply illustrations of most of the diseases of infants and children, of very many of the eye and skin, and of those chronic and ill-defined ailments which, as they do not require admission to the wards of a hospital, would not otherwise come under the observation of the Student.

The large number of patients affected with diseases of the eye and ear, now attending the out-door department, will afford Students ample opportunity to become familiar with all the ordinary affections of those organs, and to make themselves proficient in the use of the ophthalmoscope, and it is hoped that every student will thus seek to gain a practical knowledge of this important branch of Medicine and Surgery. Operations are performed on the eye by Dr. Buller, after the out-door patients have been seen, and Students are invited to attend the same, and, as far as practicable, to keep such cases under observation so long as they remain in the Hospital

The shipping contributes many examples of accidents and surgical cases.

CLINICAL CLERKS to both medical and surgical wards are appointed every three months, and each one during his term of service conducts, under the immediate directions of the Clinical Professors, the reporting of all cases in the ward allotted him. The holding of one of these offices is found to be of the greatest possible advantage to Students, as affording a true *practical* training for his future professional life. They will be awarded on application at the end of each Session to final Students of that year, in order of their standing in the primary examination.

DRESSERS are also appointed to the Surgical wards and to the Out-door Department. For these appointments application is to be made to the Professor of Clinical Surgery, and to the Out-door attending Physicians and Surgeons.

The Operating Room (used also for a lecture room) is so constructed as to enable the Students to obtain a good view of the operations.

MONTREAL DISPENSARY.

ST. ANTOINE STREET.

Over 10,000 patients yearly are treated at this Institution. The cases are of great variety, comprising a large number of pulmonary affections and children's diseases. Minor operations are of daily occurrence, and excellent practice is afforded in the application of splints and bandages. The attending Physicians furnish Students with all possible facilities. The hours of attendance are from 12-2 daily.

UNIVERSITY MATERNITY HOSPITAL.

This is under the direction of the Professor of Midwifery. Students who have already attended one course of his lectures are furnished with cases in rotation; they are advised to attend this Institution as much as possible during the summer, when, since there are as many patients and not so many pupils as in winter, a larger proportion of cases falls to the share of each.

UNIVERSITY DISPENSARY.

This Dispensary was established two years ago for special clinical instruction in Diseases of Women; and special clinics have been established at the same place, for Diseases of Children, Diseases of the Skin, and for Diseases of the Nervous System.

Diseases of Women.—The difficulty of affording to Senior Students practical instruction in gynæcology is felt in most schools, as women will not present themselves for examination before a large class of men. The plan followed for the past five years with marked success has been the limitation of the number of Students to two or three, who, in rotation, assist at the examinations, and receive instruction in the diagnosis and treatment of uterine diseases and the use of gynæcological instruments. The attendance is on Tuesdays, Thursdays and Saturdays, 3 p.m.

Diseases of Children.—The clinic is on Tuesdays, Thursdays and Saturdays at 1 p.m., when the patients are seen and instruction given on the cases.

Diseases of the Skin.—The Surgeon in charge will attend every Friday at 2 p.m. Arrangements will be made whereby a limited number of students can be present on each occasion.

Diseases of the Nervous System.—The Physician in charge will attend every Monday and Friday at 11 a.m. Students will have an opportunity in this clinic of seeing and examining many of those obscure and chronic diseases of the brain and spinal cord which are now attracting so much attention in the medical world.

XIV.

STUDENTS' APPOINTMENTS.

Resident Medical Officers Montreal General Hospital, 3 annually April 10.

Out-door Dressers.

Dressers in Eye and Ear Department.

Surgical Dressers (In-door).

Medical Clinical Clerks.

Post-mortem Clerks.

Clinical Clerk, Gynæcology.

" " Diseases of Children.

" " Dermatology.

" " Diseases of Nervous System.

Obstetrics.

Student Demonstrators of Anatomy, 4 3rd-year students.

Prosectors to Chair of Anatomy, 2.

Assistants in Practical Histology Course, 2.

Assistants in Practical Physiology Course, 4.

Assistants in Practical Chemistry, 2.

XV.

RULES FOR STUDENTS.

1. In the case of disorderly conduct, any Student may, at the discretion of the Professor, be required to leave the Class-room. Persistence in any offence against discipline after admonition by the Professor shall be reported to the Dean of Faculty. The Dean may, at his discretion, reprimand the Student, or refer the matter to the Faculty at its next meeting, and may in the interval suspend from Classes.

2. Absence from any number of lectures can only be excused by necessity or duty, of which proof must be given, when called for, to the Faculty. The number of times of absence, from necessity or duty, that shall disqualify for the keeping of a Session shall in each case be determined by the Faculty.

3. While in the College Students are expected to conduct themselves in the same orderly manner as in the Class-room.

4. When Students are brought before the Faculty under the above rules, the Faculty may reprimand, impose fines, disqualify from competing for prizes and honors, suspend from Classes, or report to the Corporation for expulsion.

XVI.

PAST SESSION.

The total number of students enregistered in this Faculty during the past year was 234, of whom there were, from—

Ontario,	126	P. E. Island,	3
Quebec,	58	Newfoundland,	3
N. Brunswick,	20	West Indies,	2
Nova Scotia,	11	British Columbia,	1
United States,	8	Manitoba,	1
		Ireland, 1	

(For Medals, prizes and passing in University examinations, See University lists.)

McGill University.—Faculty of Medicine.

TIME TABLE—FIRST AND SECOND YEARS, 1885-86.

A.M.	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.
9	Anatomy Examination.	Anatomy.	Anatomy.	Anatomy.	Anatomy.	Hygiene, 2nd or 3rd Year.
10	*Practical Chemistry, 2nd Year till 12 o'clock.	Practical Chemistry, II. Botany, 1st Year.	Practical Chemistry, 2nd Year.	Practical Chemistry, Botany, 1st Year.	Practical Chemistry, 2nd Year.	Histology Demonstration.
11	Out-Patients, Montreal General Hospital	Out-Patients, Montreal General Hospital.	Out-Patients, Montreal Gen'l Hospital.	Out-Patients, Montreal Gen'l Hospital.	Out-Patients, Montreal Gen'l Hospital.	Out-Patients, Montreal General Hospital.
P.M. 2	Physiology Examination.	Physiology.	Physiology.	Physiology.	Histology, 1st Year. Lecture.	
3	Chemistry Examination.	Chemistry.	Chemistry.	Chemistry.	Chemistry.	
4	Materia Medica, for 2nd Year only.	Materia Medica, 2nd Year only.	Materia Medica, 2nd Year only.	Materia Medica, 2nd Year only.	Materia Medica, Examination.	Practical Physiology, 2nd Year.
4 to 6		Practical Histology.		Practical Histology.		
10 to 12 A.M	Practical Anatomy.	Practical Anatomy.	Practical Anatomy.	Practical Anatomy.	Practical Anatomy.	

N.B.—The Demonstrator's Hours in the Dissecting Room are from 10-12 a.m. and from 8-10 p.m. *Until Christmas only.

McGill University.—Faculty of Medicine.

TIME TABLE—THIRD AND FOURTH YEARS, 1885-86.

A.M.	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.
9	Midwifery.	Gynæcology.	Midwifery.	Gynæcology.	Midwifery.	
10	Surgery, Examination.	Surgery.	Surgery.	Surgery.	Surgery.	Morbid Anatomy Demonstrations.
11	Practice of Medicine, Examination.	Practice of Medicine.	Practice of Medicine.	Practice of Medicine.	Practice of Medicine	
P.M. 1–2.30.	Medical Clinic, 4th Year. Surgical Clinic, 3rd Year.	Surgical Clinic, 4th Year. Medical Clinic, 3rd Year.	Medical Clinic, 4th Year. Surgical Clinic, 3rd Year	Surgical Clinic, 4th Year. Medical Clinic, 3rd Year.	Medical Clinic, 4th Year Surgical Clinic, 3rd Year	Surgical Clinic, 4th Year. Medical Clinic, 3rd Year.
1		Clinic on Diseases of Children.		Clinic on Diseases of Children.		Clinic on Diseases of Children.
2			Neurological Clinic.		Skin Clinic.	
2.30		Gynæcological Clinic.		Gynæcological Clinic.		Gynæcological Clinic.
2.30	Ophthalmic Clinic.		Aphthalmic Clinic.		Aphthalmic Clinic.	
4	Medical Jurisprudence.	General Pathology.	Medical Jurisprudence.	Lecture on Ophthalmology.	Medical Jurisprudence.	

Autopsies are performed at the General Hospital between 12 and 2 p.m.

Faculty of Law.

THE PRINCIPAL (Ex-officio).

Professors :—LAFLAMME.
KERR.
TRENHOLME.
WURTELE.
RAINVILLE.

Professors :—ARCHIBALD.
LAREAU.
HUTCHISON.
ROBIDOUX.
DAVIDSON.

Lecturer :—Hart.

Dean of Faculty.—Professor W. H. KERR, Q.C., D.C.L.

Registrar of the Faculty.—J. S. ARCHIBALD, M.A., B.C.L.

Corporation Examiners for Degrees.—Professors N. W. TRENHOLME, M.A., B.C.L., and EDMOND LAREAU, B.C.L.

Matriculation Examiners of the Faculty.—Professors J. S. ARCHIBALD, M.A., B.C.L., and EDMOND LAREAU, B.C.L.

The Classes in Law will commence on Thursday, the first of October, 1885, and will extend to March 31st, 1886.

The Examinations will be held in the William Molson Hall, McGill College Building, from 4 to 6 p.m., on the 11th, 12th, 15th, 16th, 17th, 18th, 19th days of March, 1886.

The Lecture Rooms of the Faculty are situated in the Molsons Bank Chambers, in St. James street.

The complete course of study in this Faculty extends over three years; but it may be shortened to two years, when the student matriculates in the third year of his indentures.

Students who avail themselves of the privilege of attending two years only, will nevertheless be required to pass an examination in the subjects comprised in the three years' course.

Matriculated Students who do not take the whole course are classed as Partial Students, and are not entitled to proceed to the Degree of B.C.L.

Occasional Students will be received without matriculation, for attendance on any particular series of Lectures.

Students who have completed their course of three years,—or of two years, if they have commenced in the third year of their indentures,—and have passed a satisfactory examination, will be entitled, upon the certificate and recommendation of the Faculty, to the Degree of Bachelor of Civil Law.

COURSE OF STUDY.

FIRST YEAR.

Legal History ..... Professor LAREAU.

Civil Law:

Persons, Property, Ownership ..... Professor ROBIDOUX.

Roman Law:

Institutes of Justinian, B. I, Gaius, C. I, Maine, Chapters I to IV ..... Professor TRENHOLME

Civil and Commercial Law:

Commercial Agency ..... Professor DAVIDSON.

Civil Procedure:

Introduction ..... Professor HUTCHINSON.

Criminal Law ..... Professor ARCHIBALD.

Notarial Course:

Theory and Practice of Notarial Deeds and Proceedings ..... Lecturer HART.

SECOND YEAR.

Legal Biography .....
Civil Law:
Rents, Transaction, Suretyship ..... Professor LAREAU.

Civil Law:

Usufruct, Real Servitudes, Gifts and Wills, Substitutions ..... Professor ROBIDOUX.

International Law: .....
Civil and Commercial Law:
Sales ..... Professor KERR.

Roman Law :

Institutes of Justinian, B. II. and B.III. to Title 14.
Gaius, Chaps. II. and III. } Professor TRENHOLME
Maine, Chapters V. to VIII.

Commercial Law :

Partnership
Corporations } Professor DAVIDSON.
Bills of Exchange

Civil Procedure :

First Part ..... Professor HUTCHINSON.

Criminal Procedure and Election Law ..... Professor ARCHIBALD.

Notarial Course :

Theory and Practice of Notarial Deeds and Proceedings ..... Lecturer HART.

THIRD YEAR.

Civil Law :

Privileges and Hypothecs
Prescription } Professor LAREAU.
Imprisonment in Civil Cases

Civil Law :

Successions
Marriage Covenants } Professor ROBIDOUX.
Dower

International Law
Commercial Law :
Carriage of Persons } Professor KERR.
Insurance
Bottomry and Respondentia

Roman Law :
Institutes of Justinian, B. III. from Title 14
Maine, Chapters IX. and X.
Civil Law :
Mandate } Professor TRENHOLME.
Loan
Deposit
Pledge
Evidence

Commercial Law :

Merchant Shipping
Affreightment } Professor DAVIDSON.
Insolvency

Civil Procedure:—

Second Part ..... Professor HUTCHINSON.

Criminal Procedure and Election Law ..... Professor ARCHIBALD.

Notarial Course:—

Theory and Practice of Notarial Deeds and Proceedings ..... Lecturer HART.

FACULTY REGULATIONS.

1. Any person desirous of becoming a Matriculated Student, shall apply to the Dean of the Faculty for examination and entry in the Register of Matriculation, and shall procure a ticket of Matriculation and tickets of admission to the Lectures for each Session of the Course. (Students are requested to call on the Registrar, who will furnish them with the necessary forms.)

2. Candidates for Matriculation shall pass an examination, satisfactory to the Faculty of Law, in Latin, French, English, Mathematics, and Ancient and Modern History, and the books upon which such examination shall be had, shall be from time to time fixed by the Faculty.

II. MATRICULATION IN THE FACULTY OF LAW.

The books at present prescribed are the following :—

Latin.—Virgil, Æneid, Book I.; Cicero, Orations I. and II., against Catiline; Latin Grammar.

French.—De Fivas' "Grammaire des Grammaires;" *Molière, 'Le Bourgeois Gentilhomme;' †Translation into French of Macaulay's Essay on Frederick the Great.

Exercises in composition and grammatical analysis, in English and French.

Mathematdics.—Arithmetic; Algebra to the end of simple equations; Euclid, Books I., II., III.

History.—White's Outline of Universal History (or any equivalent manual), *Green's Short History of the English People; Miles' School History of Canada; †Duruy, Histoire de France.

Literature.—*Collier's Biographical History of English Literature; †Laharpe, Cours de Litérature; † Lefranc, Cours de Litérature.

Rhetoric.—Whately's Rhetoric; Blair's Lectures (small edition).

Philosophy.—*Whately's Logic; †La Logique de Port Royal; †Cousin, Histoires de la Philosophie; *Stewart's Outline of Moral Philosophy.

N.B.—The works mentioned above preceded by an asterisk are for English students only. Those preceded by a cross are for French students only. The remainder are for both English and French.

3. Students in Law shall be known as of the First, Second and Third Years, and shall be so graded by the Faculty. In each year, Students shall take the studies fixed for that year and those only, unless by special permission of the Faculty.

4. The Register of Matriculation shall be closed on the 1st of November in each year, and return thereof shall be immediately made by the Dean to the Registrar of the University. Candidates applying thereafter may be admitted on a special examination to be determined by the Faculty; and, if admitted, their names shall be returned in a supplementary list to the Registrar.

5. Persons desirous of entering as Occasional Students shall apply to the Dean of the Faculty for admission as such Students, and shall obtain a ticket, or tickets, for the class or classes they desire to attend.

6. Students who have attended Collegiate courses of study in other Universities for a number of terms or sessions, may be admitted, on the production of certificates, to a like standing in this University, after examination by the Faculty.

7. All Students shall be subject to the following regulations for attendance and conduct :—

(1) A class-book shall be kept by each Professor and Lecturer, in which the presence or absence of Students shall be carefully noted; and the said class-book shall be submitted to the Faculty at a meeting to be held between the close of the lectures and the commencement of the examinations; and the Faculty shall, after examination of such class-book, decide which students shall be deemed to have been sufficiently regular in their attendance to entitle them to proceed to the examination in the respective classes.

(2) Punctual attendance on all the classes proper to his year is required of each student. Professors will note the attendance immediately on the commencement of their lectures, and will omit the names of Students entering thereafter, unless satisfactory reasons are assigned. Absence or tardiness, without sufficient excuse, or inattention or disorder in the Class-room, if persisted in after admonition by the Professor, will be reported to the Dean of the Faculty, who may reprimand the Student or report to the Faculty, as he may decide. While in the building, or going to or from it, students are expected to conduct themselves in the same orderly manner as in the Class-rooms. Any Professor observing improper conduct in the Class-rooms, or elsewhere in the building, will admonish the student; and, if necessary, report him to the Dean.

(3) When Students are reported to the Faculty under the above rules, the Faculty may reprimand, report to parents or guardians, disqualify from competing for prizes or honours, suspend from classes, or report to the Corporation for expulsion.

(4) Any Student injuring the furniture or building will be required to repair the same at his own expense, and will, in addition, be subject to such penalty as the Faculty may see fit to impose.

(5) The number of times of absence, from necessity or duty, that shall disqualify for the keeping of a Session, shall in each case be determined by the Faculty.

(6) All cases of discipline involving the interests of more than one Faculty, or of the University generally, shall be reported to the Principal, or, in his absence, to the Vice-Principal.

8. At the end of every Session there shall be a general examination of all the classes, under the Superintendence of the professors ; and of such other examiners as may be appointed by the Corporation, which examination shall be conducted by means of printed questions, answered by the students in writing in the presence of the Examiners. The result shall be reported as early as possible to the Faculty, which shall decide the general standing of the students accordingly.

9. Each Professor shall deliver at least two Lectures in each week. Each Lecture shall be of one hour's duration ; but the Professors shall have the right from time to time to substitute an examination for any such lectures.

10. No Student shall be considered as having kept a Session, unless he shall have attended regularly all the courses of Lectures, and shall have passed the Sessional Examinations to the satisfaction of the Faculty, in all the classes of his year.

11. The Faculty shall have the power, upon special and sufficient cause shown, to grant a dispensation to any Student from attendance on any particular Course or Courses of Lectures, but no distinction shall, in consequence, be made between the Examinations of such Students and those of the Students regularly attending Lectures. No Student shall pass for the degree of B.C.L., unless he has prepared a Thesis, either in French or English, which shall have been approved by the Faculty.

12. The subject of such Thesis shall be left to the choice of the Student, but it must fall within the range of study of the Faculty, and shall not exceed twenty pages of thirty lines each. Each Student shall on or before the first day of February forward such Thesis to the Registrar of the Faculty, marked with the *nom de ume* which he shall adopt, and accompanied with a sealed envelope, bearing the same *nom de plume* on it, and containing inside his name and the subject of his Thesis, and the envelope shall be opened in presence of the Faculty after the final decision shall be given on the respective merits of the several Thesis.

13. The Elizabeth Torrance Gold Medal, in the Faculty of Law shall be awarded to the Student who, being of the Graduating Class, having passed the Final Examinations, and having prepared a Thesis of sufficient merit in the estimation of the Faculty to entitle him to compete, shall take the highest marks in a special Examination for the medal, which examination shall include the subject of Roman Law.

14. Every Candidate before receiving the Degree of B.C.L. shall make the following declaration :

Ego A. B. polliceor, me, pro viribus meis, studiosum fore communis hujus Universitatis boni, operamque daturum ut decus ejus ac dignitatem amplificem et officiis omnibus ad Baccalaureatus in Jure Civili gradum pertinentibus fungar.

15. The fees in this Faculty are as follows:

Matriculation Fee	$ 5 00
Sessional Fee by Ordinary Students	36 00
Sessional Fee by Occasional or Partial Students, for each course	5 00
Graduation Fee, including Diploma and Case	10 00
Additional Fee for Notarial Students	10 00

Matriculation and Sessional Fees must be paid on or before Nov. 1st, and if not so paid the name of the Student shall be removed from the books, but may be re-entered by consent of the Faculty, and on payment of a fine of not less than $3. Students already on the books of the University shall not be required to pay any Matriculation Fee.

16. The Course of Lectures upon the Theory and Practice of Notarial Deeds and Proceedings is optional to candidates for the profession of law, but is compulsory upon candidates for the Notarial profession; the latter may omit the subject of civil procedure.

17. Notarial students shall rank for general standing upon their examination in the notarial class, and failure to pass such examination shall have the same effect as failure in any other compulsory subject.

18. Occasional students may be admitted into said class on such terms as shall be arranged by the Faculty.

19. Every Candidate for the Degree of D.C.L. in course, under Chap. VIII, Section 4, of the Statutes of the University, shall be required to pass within four years from his graduation as B.C.L., such examination as shall be prescribed by the regulations of the Faculty of Law; unless he shall have graduated as a B.A. of this University, either in Course or *ad eundem*. And not less than two months before proceeding to the Degree of D.C.L., the Candidate shall deliver to the Faculty of Law twenty-five printed copies of a Thesis or Treatise upon a subject selected or approved by the Faculty; such Thesis to contain not less than twenty-five octavo pages of printed matter, and possessing such a degree of literary and scientific merit as shall, in the opinion of the Faculty, justify them in recommending him for that Degree. And in addition to the foregoing qualifications, the Candidate shall pay to the Secretary of the Faculty annually during term, for the retention of his name on the Books of the Faculty, during the said period of twelve years, a fee of two dollars, to be added to the Library Fund of the Faculty.

Except as regards the Thesis, this regulation applies only to those who have taken the degree of B.C.L., subsequently to October, 1873. The examination under the above rule is as follows:

(1 *International Law*:—

Phillimore: Wharton, Conflict of Law; Fœlix, Droit International Privé.

(2) *Roman Law* :—

Gaii Commentarii, IV.; Pauli Sententiæ ; Pomponii Fragmentum de origine juris, D. 1. 2. ; Novellæ Justiniani, cxxviii. cxxvii ; Ortolan, Institutes de Justinien, Vol. i. ; Mommsen's History of Rome.

(3) *Constitutional Law* :—

Hallam, Constitutional History of England ; May, Constituiional History of England ; Mill, Representative Government ; The British North America Act, and cases thereunder.

University School Examinations.

1886.

UNDER THE SUPERINTENDENCE OF McGILL UNIVERSITY, MONTREAL, AND THE UNIVERSITY OF BISHOP'S COLLEGE, LENNOXVILLE.

FOR CERTIFICATES OF THE UNIVERSITIES AND THE TITLE OF ASSOCIATE IN ARTS.

These Examinations are held in Montreal and at Lennoxville, and local centres may be appointed elsewhere on application to the Principal of either University, accompanied with satisfactory guarantee for the payment of necessary expenses.

The Examinations are open to Boys or Girls, under 18 years of age, from any Canadian School.

SUBJECTS OF EXAMINATION.

I. PRELIMINARY SUBJECTS.

English Reading	30	*Marks.*
English Dictation	40	do
English Grammar (as in Morell or Smith)	50	do
Arithmetic (all the ordinary rules, including square root)	90	do
Geography (acquaintance with the maps of each of the four continents, and of British North America)	50	do
British History (as in Collier), and *Canadian History* (as in Jeffers)	50	do

The Candidates will also be examined in the Gospels, unless objection be made thereto by their parents or guardians, and creditable answering in the same will be mentioned in the Certificate.

Additional marks, not exceeding 20, may be allowed in the Dictation paper, for quality of handwriting.

II. Optional Subjects.

Section 1. Languages.

Latin :—

Cæsar.—Bell, Gall., Bk. III. Virgil.—Æneid, Bk. VI., vss. 1-371. Cicero.—Pro Marcello.	150 marks.

Greek :—

Homer.—Iliad, Bk. IV. Arrian.—Bk. III., Capp. 1-20, inclusive.	150 do.

French :—

Grammar. Darey's Lectures Francaises. Re-translation English into French.	120 do.

German :—

Grammar. Adler's Reader, Section II. Translation from German into English.	120 do

Section 2. Mathematics, Natural Philosophy, &c.

Geometry :—

Euclid, I., II., III.....	150 do

Algebra :—

Elementary Rules, Involution, Evolution, Fractions, Simple Equations.	150 do

Plane Trigonometry.

(As in Hamblin Smith, pp. 1-100, omitting Ch. XI.	100 do

Natural Philosophy.

Mechanics and Hydrostatics (as in any ordinary School Text-Book).	100 do
Geometrical and Freehand Drawing.....	100 do

Section 3. English.

The English Language.

Philology (as in Smith's or Mason's Grammar and Peile's Primer). Trench's Study of Words.	120 do

English Literature.

English Literature, Primer by S. A. Brooks. Shakespeare, Julius Cæsar. Scott's Lady of the Lake.	120 do
History.—(As in Primers of Greece and Rome, and Collier's Great Events).....	100 do
Geography.—Physical, Political and Commercial.....	100 do

Section 4. Natural Science, &c.

Zoology (as in Nicholson's Introductory Text-Book)	100	do
Botany (as in Gray's "How Plants Grow")	100	do
Geology (as in Dana's Text-Book)	100	do
Chemistry (as in Miller's Introduction to Inorganic Chemistry, pp. 1 to 198)	100	do

GENERAL REGULATIONS.

1. Candidates will not be considered as having passed in any subject unless they have obtained at least *one-third* (and, in the case of Reading and Dictation *two-thirds*) of the total number of marks obtainable in that subject.

2. Every Candidate for the Certificate of Associate in Arts, or for the Junior Certificate, must pass in all the Preliminary Subjects.

3. Every Candidate for the Certificate of Associate in Arts must also pass in the Optional Subjects contained in one of the three following groups:

First.—(*a*) Two Subjects of Section 1, one of them being Latin or Greek.

(*b*) Geometry or Algebra of Section 2.

(*c*) Two of the eight Subjects of Sections 3 and 4.

Second.—(*a*) French and German of Section 1.

(*b*) Geometry or Algebra of Section 2.

(*c*) Two Subjects of Section 3.

(*a*) One Subject of Section 4.

Third.—(*a*) One Subject of Section 1.

(*b*) Two Subjects of Section 2.

(*c*) Three of the eight Subjects of Sections 3 and 4.

4. Candidates for Junior Certificates must pass in the following:

(*a*) One Subject of Section 1.

(*b*) One Subject of Section 2.

(*c*) One of the eight Subjects of Sections 3 and 4.

5. The total number of Marks gained by every Candidate, in both the Preliminary Subjects (except Reading) and Optional Subjects, shall be added up, and the Candidates arranged in a printed list, at the close of the Examination, in the order of these totals. No marks in any subject shall be counted unless the Candidate has gained at least the minimum number of Marks required for passing in that subject. [The marks in not more than three subjects of section 1, three subjects of section 2, and three subjects selected from sections 3 and 4, will be counted. Candidates taking one classical and one modern language, may, instead of a third

language, take an additional subject of section 4, with Geometrical or Freehand Drawing (150 marks in the aggregate). Candidates who take two modern languages may take an additional subject of section 4, with drawing as above, to be reckoned at 180 marks.]

6. Candidates who obtain at least *two-thirds* of the marks in any Optional Subject will be entitled to a Certificate of creditable answering in that Subject, provided they satisfy the conditions for either Associate in Arts or Junior Certificate.

7. Associates in Arts who have passed in Latin, Greek,* Algebra and Geometry, may, without further examination, enter the Faculties of Arts of the two Universities. Those who have passed in Algebra and Geometry may enter the Faculty of Applied Science of McGill University.

8. Candidates who fail, or who may be prevented by illness from completing their examinations, may come up at the next examination without extra fee, unless in the interval they have become disqualified by age, this qualification not to apply in cases of illness duly certified by medical authority.

9. The Head Master or Mistress of each school must certify to the character and ages of the pupils sent up for examination.

10. The examinations will begin on Tuesday, June 1st, at 9 a.m.

11. Lists of the names, ages, and Optional Subjects to be taken by the candidates, together with the fee of $4 for each Candidate, must be transmitted to the Secretary of McGill University on or before May 1st. (Blank forms and copies of the Regulations will be furnished on application.)

CLASSICAL SUBJECTS FOR 1887.

Latin:—

Cæsar.—Gallic War, Bk. I.
Virgil.—Æneid, Bk. II., vss. 1-300.
Cicero.—In Catilinam Oratt, I. and II.

Greek:—

Xenophon.—Anabasis, Bk. I.
Homer.—Iliad, Bk. VI.

* For women entering McGill, Latin only will be required.

Regulations for the Higher Examination of Women.

UNDER THE SUPERINTENDENCE OF McGILL UNIVERSITY, MONTREAL, AND THE UNIVERSITY OF BISHOP'S COLLEGE, LENNOXVILLE.

Women over sixteen years of age, who have already received the Senior or Junior Certificates of the University, or who present certificates of education and examination accepted as equivalent by the Examiners, may enter on the following Examinations, and, on passing the same, shall be entitled to Certificates as Senior Associates in Arts.

The Examinations will be held at the same time and in the same manner with those for School Certificates, and local centres may be established on similar conditions.

The Examinations are divided into Imperative and Optional, as follows :—

I. IMPERATIVE.

These subjects consist of the following groups, in each of which every candidate will be required to take at least one-third of the number of marks :

(*a*) *Classics.*

Latin and History.—

Tacitus :—Germania.
Virgil :—Æneid, Book VI.
Latin Prose Composition.—Text-book :—Dr. Smith's Principia Latina, Parts IV. and V.
History of Rome.—Text-book :—Liddell's History of Rome.

——200 marks.

Greek and History.

Euripides :—Alcestes.
Xenophon :—Hellenics, Book I.
History of Greece.—Text-book :—Dr. Smith's History of Greece.

——200 marks.

Candidates may take (*a*) either Greek *or* Latin as above, or (*b*) the Greek *and* Latin subjects of the McGill University Intermediate Examination.

(*b*) *Mathematics.*

Arithmetic.
Euclid, Bks. I. II. III. IV., Defs. of Bk. V., Bk. VI., omitting Props. 27, 28, 29.

Algebra, inclusive of Surds, Quadratic Equations and Progressions.
Plane Trigonometry, including the measurement of Heights and Distances, with the nature and use of Logarithms.

—— 200 marks.

(In the last subject, Candidates are referred to Galbraith and Haughton's Trigonometry, or similar text-books.)

(*c*) *Logic and English.*

Logic, as in Jevons' Elementary Lessons.
Anglo-Saxon, as in Earle's Manual.
Philology, as in the introduction of Earle's Philology.
English History, as in Collier.

—— 200 marks.

II. OPTIONAL.

In addition to the above, Candidates must pass in at least one, and not more than three, of the following subjects, creditable answering in which will be mentioned in their certificates :

(*a*) *Chemistry.*

Inorganic, as in Roscoe, with some knowledge of Chemical Manipulation.

(*b*) *Botany.*

As in Gray's Text book, with some knowledge of Canadian Botany.

(*c*) *Mathematical Physics.*

Mechanics (Statics and Dynamics) ; Hydrostatics.
(Candidates are referred to Galbraith and Haughton's Mechanics and Hydrostatics, Hamblin Smith's Statics and Hydrostatics, or similar Text-books.

(*d*) *Experimental Physics.*

Any two of the following :—Heat, Light, Electricity and Magnetism, Sound.
Candidates will be expected to shew in the Examinations that they have made the experiments themselves or have seen them made. For range of study, candidates are referred to Ganot's Elementary Treatise on Physics, translated by Atkinson.

(*e*) *Biology and Geology.*

Classification of Animals and Plants, as in Dawson's Handbook and Gray's Text-book.
Geology, as in Dana's Manual.
Palæontology, as in Nicholson's Manual.
A practical knowledge of Minerals, Rocks and Fossils will be expected.

(*f*) *Mental Philosophy.*

Thomson's Outlines of the Laws of Thought.
Murray's Outline of Hamilton's Philosophy, Introduction, and Part I. to the end of Chapter V.

(*g*) *English Literature and Ancient History.*

Chaucer—Prologue to Knight's Tale.
Shakespeare—Macbeth and Merchant of Venice.
History—Bryce's Holy Roman Empire, Hallam's Middle Ages, Chaps. 1, 3, 5, 8, 9.
History of Greece and Rome (if not taken in the imperative), as in Smith and Liddell.

(*h*) *French Language and Literature with Ancient History.*

Grammatical Questions.
Molière, le malade imaginaire.
Racine, Phèdre.
C. Delavigne, les Enfants d'Edouard.
Bonnefon, Les Ecrivains célèbres de la France, 16th and 17th centuries.
Translation from English into French, Macaulay's Essay on Milton.
With History, as under (*g*).

(*i*) *German Language and Literature with Ancient History.*

General questions on Grammar (Schmidt's German Guide, Parts 2 and 3).
Account of the life and Principal Works of Goethe and Schiller, with a special study of Schiller's "Maria Stuart."
Adler's Progressive Reader, Nos. 5, 6, 8, 9, 12, 14 of Section IV.
Translation from English into German.
With History, as under (*g*).

(*k*) *Greek or Latin with History.*

If not taken in the imperative part of the Examination.

In any of the Optional Subjects, Candidates must receive at least one-third of the marks in order to pass, and at least one-half to receive mention of creditable answering.

(It is understood that the Optional Subjects will be reckoned as approximately of equal value.)

Successful Candidates will be arranged in the lists in the order of the aggregate of the marks which they have obtained in the whole of the Imperative subjects and one only of the Optional.

The Fee for the Examination is eight dollars, and must be paid before the Examination. In case of failure, the Candidate may come up at the next Examination without additional fee.

Candidates are required to state in writing to the Secretary of either University the Optional Subject or Subjects in which they propose to be examined, at least one month before the date of the Examination.

McGill Normal School

1885-86.

Government of the School.

Under the Regulations for the establishment of Normal Schools in the Province of Quebec, the Superintendent of Education is empowered to associate with himself for the direction of one of these Schools the Corporation of McGill University, Montreal. In accordance with this arrangement, the Provincial Protestant Normal School is affiliated with the McGill University, and the Vice-Chancellor and four members of the Corporation of the University, constitute the Committee of the Normal School for the Session of 1885-6.

ANNOUNCEMENT FOR THE SESSION 1885-86.

This Institution is intended to give a thorough training to teachers, especially for the Protestant population of the Province of Quebec. This end is attained by instruction and training in the Normal School itself, and by practice in the Model Schools; and the arrangements, more especially with regard to barsaries in aid of boarding and travelling expenses are of such a character as to afford the greatest possible facilities to Students from all parts of the Province.

The twenty-ninth Session of this school will commence on the first of September, 1885. The complete course of study extends over three years, and the Students are graded as follows :—

1. *Elementary School Class*,—Studying for the Elementary School Diploma.
2. *Model School Class*,—Studying for the Model School Diploma.
3. *Academy Class*,—Studying for the Academy Diploma.

The Announcement of the School, containing details as to courses of study, bursaries and other privileges of students, and regulations, may be obtained on application to Dr. Robins the Principal of the School. Address - Normal School, 32 Belmont Street, Montreal.

UNIVERSITY GYMNASIUM.

MR. FREDERICK S. BARNJUM, Instructor.

The classes, which are open to the Students of all the Faculties, will meet at the University gymnasium, at hours to be announced at the commencement of the Session.

The Wicksteed gold, silver and bronze medals for Physical culture (the gift of Dr. R. J. Wicksteed) are offered for competition to students of the graduating class, and to students who have had instruction in the gymnasium for two sessions, the gold medal to the former, the silver and bronze medals to the latter.

The award of these medals is made by Judges appointed by the corporation of the University.

Every competitor for the gold medal is required to lodge with the Judges, before the examination, a certificate of good standing in the graduating class, signed by the Dean or Secretary of the Faculty to which he belongs, and the medal will not be awarded to any student who may fail in his examinations for the degree.

COLLEGE BUILDINGS.

Important additions are being made in the present year to the buildings of the University.

The building of the Medical Faculty is being greatly enlarged by the addition of new and more capacious class-rooms and laboratories, which will, it is believed, place it on an equality in point of accommodation with any medical school on this continent. See notice in Announcement of the Medical Faculty.

The buildings occupied by the Faculties of Art and Applied Science are also being greatly extended. New and separate class-rooms will be provided for the classes of women, and additional and larger rooms for the other classes, as well as extensive laboratories and assay rooms for the classes in Practical Chemistry and in Assaying.

All the above additions will, it is hoped, be ready for use at the opening of the session of 1885-6.

Passed the University Examinations.

SESSION 1884-85.

FACULTY OF LAW.

PASSED FOR THE DEGREE OF B.C.L.

Struthers, Irving Enoch
Smith, Arthur Welsford, B.A.
Greenshields, Robert Alfred Earnest, B.A.
O'Halloran, George Finley
Claxton, Albert George Brooke
Hague, Henry John, B.A.
Jolly, James Gladstone
Cameron, John Dugald, B.A.
Duffett, Henry James, B.A.

FACULTY OF MEDICINE.

PASSED FOR THE DEGREE OF M.D., C.M.

(Arranged Alphabetically.)

Arthur, R. H.
Allan, J. H. B.
Baird, T. A.
Burrows, F. N.
Cassidy, Geo. A.
Daly, Walter S.
Corson, Douglass
Darey, J. H., B.A.
Dazé, Henri
Doherty, W. W.
Elder, John, B.A.
Eberts, D. W.
Finlay, F. G.
Harkin, F. McD.
Hallett, E. O.
Hurdman, H. T.
Gustin, Smith.
Hanna, A. E.
Hawkins, A. C.
Irvine, R. T.
Johnson, H. D.
Klock, W. H.
McMeekin, J. W.
McGannon, M. C.
McCormack, N.
McDonald, H. J.
McMillan, D. L.
Powell, F. H.
Palmer, G. F.
Robertson, A. M.
Shibley, J. L.
Wishart, D. G.
Wilson, J. A K.
Wood, Edwin Geo.

PASSED THE PRIMARY EXAMINATION.

(Arranged Alphabetically.)

Aylen, P.
Blackader, E. H. P., B.A.
Boggs, G. W.
Boone, S. W.
Campbell, A. W.
Carter, L. H.
Cattanach, W.
Cowie, Alex. MacD.
DeCow, D. McG.
Dazé, Henri
Dickson, J. A., B.A.
Earl, E. H.
Ellis, W. E.
Evans, E. J.
Ferguson, W. D.
Fillmore, E. W.
Flagg, J. D.
Fraser, J. M.
Gardner, A. W.
Haentschell, W. C.
Hall, Wm.
Hamer, A. L.
Haythorne, T. J.
Johnson, J. W.
Kelly, J. A. A.
Kennedy, R. A.
Kirkpatrick, R. C., B.A.
Lafleur, H. A., B.A.
Leslie, A. C.
Loucks, W. F.
McDonald, D. D.
McMillan, G. A.
Morgan, V. H.
Norman, T. J.
Pomeroy, L. E. M.
Poole, A.
Reavely, E.
Richardson, G. C.
Ross, D. L.
Ross, L. F.
Scully, D. J.
Sinclair, D.
Stephen, G. C.
Warneford, P. H.
Williams, E. P.
Williams, J. F.
Young, A. A.

FACULTY OF ARTS

PASSED FOR THE DEGREE OF B. A.

In Honours.

(Alphabetically arranged.)

First Rank.—Colquhoun, Arthur.
Lochhead, William.
McFarlane, James A.
Martin, J. C.
Stewart, William G.

Second Rank.—None.

Ordinary.

(In order of Merit.)

McGill College.

Class I.—McLennan, Hugh S.
Thompson, G. J. A.

Class II.—Budden, Hanbury.
Watson, Murray.
McLennan, George A. } equal.
Macvicar, J. Harvey. }

Class III.—Robertson, Philip M.
Higgins, Joseph H.
Currie, Alexander.
Currie, Walter T.
Grant, Andrew S.
Cameron, Donald.
Aeger.—Calder, George F.

Morrin College.

Class I.—Rolph, Nathaniel.
Fergusson, John A.
Silver, Herbert J.
Home, W. A.
Walters, A. H.
Class II.—Campbell, H.
Class III.—None.

BACHELORS OF ARTS PROCEEDING TO THE DEGREE OF M.A. IN COURSE.

Naylor, William H.
Lighthall, William D.
Darey, J. Herbert.
Ami, Henry M.

ADMITTED AD EUNDEM GRADUM.

Whyte, W. W., B.A.

PASSED THE INTERMEDIATE EXAMINATION.

McGill College.

Class I.—Nicholson, John A.
Walsh, James.
Brown, Samuel R.
Johnston, Robert.
Clay, W. Leslie.
Johnson, Alexander R.
Class II.—Patton, Hugh M.
Murray, Alfred P.
Colby, Charles W.
Naismith, James.
Hill, Rowland S.
Cameron, Wellington A.
Henderson, Robert B. } equal.
Nichols, William A. }
Mckenzie, Malcolm.
Class III.—Rochester. }
White, Charles W. } equal.
Gerrie, John P.
Sanders William.
McLeod, Murdoch J.
Kingston, George B.
Russell, Walter.
Bourne, Nicholas A. F.
Internoscia, A.
Wright, Robert W.

Morrin College.

Class I.—McLennan, Malcolm.
Langton, J. F.
Class II.—MacDonald, M. S.
Class III.—Rivard, E. S.

St. Francis College.

Class I.—None.
Ciass II.—Gamble, Wm.
Class III.—None..

FACULTY OF APPLIED SCIENCE.

Civil Engineering (*Advanced Course*).

Hedley Vicars Thompson.

Civil Engineering (*Ordinary Course.*)

IN ORDER OF MERIT.

Samuel Fortier, Jude Routhier, Thomas William Lesage.

Mining Engineering.

IN ORDER OF MERIT.

Ernest McCourt Macy, Charles William Trenholme, Edward Payson Mathewson.

Scholarships and Exhibitions.

SESSION 1884–85.

FACULTY OF ARTS.

I. SCHOLARSHIPS (Tenable for two years).

Year of Commencement.	Name of Scholars.	Subject of Examination.	Annual Value.	Founder or Donor.
1883	Lockhead, Wm.	Mathematics.	$125	W. C. McDonald.
1883	Stewart, Wm. G.	Class. & Mod. Lng.	$120	Chas. Alexander.
1883	Hargrave, Isaac L.	Natural Science.	$125	W. C. McDonald.
1884	Topp, Francis.	Mathematics.	$125	" "
1884	Livingstone, C. H.	Natural Science.	$125	" "
1884	MacDougall, John.	Class. & Mod. Lng.	$125	" "
1884	Patterson, Wm.	" " "	$125	" "

II. EXHIBITIONS (Tenable for one year).

Name of Exhibitioner	Academic Year.	Annual Value	Founder or Donor.
Brown, S. R.	Second.	$125	W. C. MacDonald.
Johnson, A. R.	"	$125	" "
Johnston, Robt.	"	$125	George Hague.
Patton, H. M.	"	$100	Mrs. Jane Redpath.
Bryan, Andrew.	First.	$125	W. C. MacDonald.
Day, John L.	"	$125	" "
Pedley, Hilton.	"	$125	" "
Duke, Wm. A.	"	$100	Prof. Johnson.

Prizes, Honours and Standing.

SESSION 1884-85.

FACULTY OF LAW.

GRADUATING CLASS.

FIRST RANK HONOURS AND ELIZABETH TORRANCE GOLD MEDAL AND PRIZE IN INTERNATIONAL LAW—IRVING E. STRUTHERS.

First Rank Honours and Prize for best Thesis.—ARTHUR W. SMITH, B.A.

First Rank Honours and Prize for General Proficiency.—ROBERT A. E. GREENSHIELDS, B.A.

Second Rank Honours.—GEORGE O'HALLORAN, B.A., and ALBERT G. B. CLAXTON.

Standing in the Several Classes.

INTERNATIONAL LAW.—PROFESSOR KERR.

First, CLAXTON & STRUTHERS (equal).

Second, GEENSHIELDS.

ROMAN LAW.—PROFESSOR TRENHOLME.

First, GREENSHIELDS.

Second, O'HALLORAN

CRIMINAL PROCEDURE.—PROFESSOR ARCHIBALD.

First, GREENSHIELDS.

Second, SMITH.

LEGAL HISTORY.—PROFESSOR LAREAU.

First, STRUTHERS.

Second, SMITH.

CIVIL PROCEDURE.—PROFESSOR HUTCHINSON.

First, STRUTHERS.

Second, GREENSHIELDS.

CIVIL LAW.—PROFESSOR ROBIDOUX.

First, GREENSHIELDS.

Second, SMITH.

COMMERCIAL LAW.—PROFESSOR DAVIDSON.

First, SMITH.

Second, STRUTHERS.

SECOND YEAR.

First Rank Honours and First Prize.—ALBERT JOSEPH BROWN, B.A.

First Rank Honours and Second Prize, Prize in International Law.—RALEIGH JEREMIAH ELLIOTT.

Second Rank Honours.—JOHN MACKIE, B.A., and R. L. MURCHISON.

PASSED THE SESSIONAL EXAMINATIONS.

Albert Joseph Brown, B.A., Windsor Mills; Raleigh J. Elliott, Durham, Que.; John Mackie, B.A., Quebec, Que.; Roderick L. Murchison, Dundee, Que.; George C. Wright, B.A., Hull, Que.; Francis Samuel Mackay, Papineauville, Que.; Louis Thomas Polette, Three Rivers, Que.; Louis Adelard Brien Robillard, St. Alexandre, Que.

Standing in the Several Classes.

INTERNATIONAL LAW.—PROFESSOR KERR.

First, MACKAY.

Second, WRIGHT.

ROMAN LAW.—PROFESSOR TRENHOLME.

First, Brown.

Second, Elliott.

CRIMINAL LAW.—PROFESSOR ARCHIBALD.

First, ELLIOTT and MACKIE (equal.)

Second, BROWN and WRIGHT (equal).

LEGAL HISTORY.—PROFESSOR LAREAU.

First, BROWN and MACKIE (equal).

Second, MURCHISON.

CIVIL PROCEDURE.—PROFESSOR HUTCHISON.

First, MURCHISON.

Second, ELLIOTT and MACKIE (equal).

CIVIL LAW.—PROFESSOR ROBIDOUX.

First, ELLIOTT.

Second, BROWN.

COMMERCIAL LAW.—PROFESSOR DAVIDSON.

First, BROWN.

Second, MACKIE.

FIRST YEAR.

Second Rank Honours and First Prize—JAMES MABON, B.A.

Second Prize—HENRI A. BEAUREGARD.

PASSED THE SESSIONAL EXAMINATIONS.

James Mabon, B.A., St. Louis de Gonzague, Que.; Henri Albany Beauregard, St. Hyacinthe, Que.; John Andrew McLean, Lancaster, Ont.; Hector Buie, Montreal, Que.; Victor Ernest Fontaine, St. Hyacinthe, Que.; Joseph Bricot dit Lamarche, L'Assomption, Que.

Standing in the Several Classes.

ROMAN LAW.—PROFESSOR TRENHOLME.

First, MCLEAN.

Second, BUIE.

CRIMINAL LAW.—PROFESSOR ARCHIBALD.

First, MABON.

Second, BUIE.

LEGAL HISTORY.—PROFESSOR LAREAU.

First, MCLEAN.

Second, MABON.

CIVIL PROCEDURE.—PROFESSOR HUTCHINSON.

First, MABON.

Second, BEAUREGARD.

CIVIL LAW.—PROFESSOR ROBIDOUX.

First, BEAUREGARD.

Second, FONTAINE.

COMMERCIAL LAW.—PROFESSOR DAVIDSON.

First, MABON.

Second, MCLEAN.

FACULTY OF MEDICINE.

THE HOLMES GOLD MEDAL—*Prize for the best Examination in the Primary and Final Branches*—EDWIN G. WOOD, of Londesborough, Ont.

Prize for the best Final Examination.—SMITH GUSTIN, London, Ont.

Prize for the best Primary Examination—EDWARD J. EVANS, Seaforth, Ont.

THE SUTHERLAND GOLD MEDAL.—H. A. LAFLEUR, B.A., Montreal.

Students deserving Honorable Mention.

In the Primary Examination, H. A. Lafleur, J. A. A. Kelly, D. L. Ross, E. H. P. Blackader, R. A. Kennedy, L. F. Ross, T. J. Haythorne, R. C. Kirkpatrick, Wm. Hall and J. M. Fraser.

In the Final Examination, F. G. Finlay, H. T. Hurdmann, M. C. McGannon, T. A. D. Baird, John Elder, D. W. Eberts.

PROFESSOR'S PRIZES.

BOTANY.—T. A. Clouston.

PRACTICAL ANATOMY.—Demonstrator's Prizes, 2nd year, H. A. Lafleur. 1st year, W. J. Bradley.

CLINICAL MEDICINE.—Junior Class, H. S. Birkett.

FACULTY OF ARTS.

GRADUATING CLASS.

B.A. Honours in Natural Science.

STEWART, WILLIAM G.—First Rank Honours, and Logan Gold Medal.

LOCHHEAD, WILLIAM.—First Rank Honours.

B.A. Honours in Mental and Moral Philosophy.

MCFARLANE, JAMES A.—First Rank Honours and Prince of Wales Gold Medal.

B.A. Honours in English Language, Literature and History.

COLQUHOUN, ARTHUR.—First Rank Honours, and Shakspere Gold Medal.

MARTIN JOHN C.—First Rank Honours.

Special Certificate.

MCLENNAN, HUGH S.—Special Certificate of First Rank General Standing at B.A. Ordinary Examination, and Lansdowne Gold Medal.

THIRD YEAR.

TOPP, FRANCIS.—First Rank Honours and Prize in Mathematics, First Rank General Standing, Second Prize in Rhetoric and English.

SWABEY, CHARLES.—First Rank Honours and Logan Prize in Natural Science, First Rank General Standing, Prizes in Latin, Chemistry, Zoology, First Prize in Rhetoric and English.

FYLES, WILLIAM T.—First Rank Honours in Classics and Prize in Greek.

McDOUGALL, JOHN.—First Rank Honours in Mental and Moral Philosophy.

RITCHIE, PHILIP.—First Rank Honours in Modern Languages and History.

PATTERSON, WILLIAM.—First Rank Honours in Classics.

BRAITHWAITE, EDWARD E.—First Rank Honours and Prize in Mental and Moral Philosophy.

YATES, NELSON P.—First Rank Honours in Mental and Moral Philosophy.

PEDLEY, FRANCIS.—First Rank Honours in Mental and Moral Philosophy.

CLEMENTS, BENJAMIN.—Second Rank Honours in Mental and Moral Philosophy.

DALPE, WILLIAM H.—Second Rank Honours in English Language and Literature.

HARGRAVE, ISAAC.—Second Rank Honours in English Language and Literature.

CLERK, RONZO H.—First Rank General Standing.

LIVINGSTONE, CHARLES H.—Prize in Zoology, Second Prize in Rhetoric and English, Professor's Prize for Collection of Plants.

McWILLIAMS, ANDREW.—Prize in Hebrew.

PASSED THE SESSIONAL EXAMINATIONS.

Topp, Swabey, Clerk, Fyles, Ritchie, MacDougall, Livingstone, McRae, Patterson; Braithwaite and McCullough and McOuat and Hibbard, equal; Dalpé and Yates, equal; McWilliams, Sparling; O'Sullivan and Pedley, equal; Evans, Clements, Blair; Hargrave and McLean, equal; Roberts, Chalmers, Wallace.

SECOND YEAR.

JOHNSON, A. R.—(High School, Montreal).—First Rank Honours and Prize in Mathematics.

JOHNSTON, ROBERT.—(Kincardine High School O.)—Second Rank Honours and Prize in Mathematics; First Rank General Standing.

WALSH, JAMES.—(Huntingdon Academy P.Q.)—First Rank General Standing; Prize in French.

BROWN, SAMUEL R.—(Huntingdon Academy.)—First Rank General Standing.

CLAY, W. LESLIE.—(Prince of Wales College, P.E.I.)—First Rank General Standing

NICHOLSON, JOHN A.—(Prince of Wales College, P.E.I.)—First Rank General Standing.

COLBY, CHAS. W.—(Stanstead Wesleyan College)—Prize in English Literature.

MURRAY, ALFRED P.—(Private Tuition)—Prize in Botany; Prize in Logic.

PATTON, HUGH M.—(High School, Montreal)—Prize in German.

NAISMITH, JAMES.—Prize in Hebrew.

PASSED THE SESSIONAL EXAMINATION.

Nicholson, Walsh, Brown (S. R.), Johnston (R.), Clay, Johnson, (A. R.), Patton, Murray, Colby, Naismith, Hill, Cameron; Henderson and Nicols, equal; McKenzie; Whyte and Rochester equal; Gerrie, Sanders, McLeod (Murdoch), Kingston, Russell.

FIRST YEAR.

Goff, Harry Neville.—(High School, Port Perry, Ont.)—First Rank Honours and Prize in Mathematics.

Le Rossignol, James E.—(High School, Montreal)—Second Rank Honours in Mathematics; First Rank General Standing.

McCusker, Samuel Freeman.—(High School, Montreal)—Second Rank Honours in Mathematics.

Day, John Lewis.—(High School, Montreal)—Second Rank Honours in Mathematics; First Rank General Standing; Prize in History; Prize in French.

Macallum, Frederick K. W.—(Oberlin College, Ohio) Prize in Hebrew.

Martin, Charles F.—(High School, Montreal)—Prize in Chemistry. Prize in German.

Duke William Allan.—(Private Tuition)—Prize in Latin.

PASSED THE SESSIONAL EXAMINATIONS.

Le Rossignol, Day, Pedley (H.), Bryan, Macallum, Martin, Pritchard, Mason, Duke, Goff, Lindsay, Howitt, Morison, Mackenzie, McCusker, Bryson, Kinloch, Massé, Browne, England, Jamieson (W. L.), Moss, Naismith, Hall, *aeger.*

At the Examinations in September, 1884, the following *Scholarships* and *Exhibitions* were awarded:—

SCHOLARSHIPS—TENABLE FOR TWO YEARS.

Third Year.—Mathematical Scholarship, *Topp, F.

Third Year.—Classical and Modern Language Scholarships, *MacDougall, J.; *Patterson, W.

Third Year.—Natural Science Scholarship, *Livingstone, C. H.

EXHIBITIONS—TENABLE FOR ONE YEAR.

Second Year.—*Brown, S. R., (Huntingdon Academy, Q.); *Johnson, Alex. R., (High School, Montreal); †Johnston, Robert, (Kincardine High School, Ont) ‡Patton, H. M., (High School, Montreal).

First Year.—*Bryan, A. (St. Francis College, Richmond, Q.) *Day, John L., (High School, Montreal); *Pedley, H. (Collegiate Institute, Coburg, Ont) §Duke, Wm. A., (Private Tuition).

---

*Value of Scholarship or Exhibition, $125 yearly; founder, W. C. MacDonald, Esq.
†Value, $125 yearly; donor, George Hague, Esq.
‡Value, $100 yearly; founder, Mrs. Jane Redpath.
§Value, $100 yearly; donor, Dr. Johnson.

SESSIONAL EXAMINATIONS, 1885.

ORDINARY COURSE IN ARTS.

GREEK.

B. A. ORDINARY.—*Class I.*—Macvicar, Thompson. *Class II.*—Watson and McLennan (Geo. A.), equal. *Class III.*—Currie (Alex.), Grant, Higgins, Cameron (Don.).

THIRD YEAR.—*Class I.*—Fyles, Patterson; Braithwaite and McRae, equal; MacDougall and McLean, equal. *Class II.*—Yates, Blair, O'Sullivan; McKerchar and McWilliams and Sparling, equal. *Class III.*—Hargrave and Roberts, equal. *Prize.*—Fyles.

SECOND YEAR.—*Class I.*—Walsh, Clay; Brown and Nicholson, equal; Colby and Johnson (A. R.), equal; Patton and Rochester, equal. *Class II.*—Henderson; Hill and Johnston (Robt.), equal; Murray and Naismith (James), equal; McLeod (M. J.) and Nichols, equal; McKenzie. *Class III.*—Gerrie; Cameron (W. A.) and Sanders and Wright, equal; Russell, Kingston, Sweeny; Internoscia and Solandt, equal.

FIRST YEAR.—*Class I.*—McLea, Duke; Day and Macallum, equal. *Class II.*—Mason, Pedley (Hilton), Le Rossignol, Simpson. *Class III.*—Howitt and Lindsay and Martin, equal; Bryan; Pritchard and Moss, equal; Morison; Evans and Goff, equal; Leith, Jamieson, Lyman and McCusker, equal; Kinloch, McKenzie, Masse, England; Naismith (P.) and Brayley, equal; Hall and Bryson and Thurlow and Holden, equal. *Prize.*—McLea.

LATIN.

B. A. ORDINARY.—*Class I.*—None. *Class II.*—McLennan (H. S.) and Robertson, equal. *Class III.*—Budden; Currie (W. T.) and Grant, equal.

THIRD YEAR.—*Class I.*—Swabey; Fyles and Patterson, equal; McRea Livingstone and McCullough equal. *Class II.*—O'Sullivan; Clerk and Hibbard and McLean and McOuat, equal; Evans; Chalmers and Pedley (F.), equal. *Class III.*—Bell, Clements, Dalpe. *Prize.*—Swabey.

SECOND YEAR.—*Class I.*—Walsh; Brown and Clay and Nicholson, equal; Johnson (A. R.), Johnston (Robt.). *Class II.*—Patton; Colby and Rochester, equal; Murray, Henderson, Naismith (Jas.). *Class III.*—McKenzie and Wright, equal; Internoscia, Hill, McLeod (M. J.); Nichols and Sanders, equal; Kingston, Cameron (W. A.); Gerrie and Russell, equal; Whyte (C. W.), Solandt.

FIRST YEAR.—*Class I.*—Duke and McLea, equal; Day, Ritchie, Mason, Pedley (Hilton). *Class II.*—Bryan; Macallum and Martin, equal; Kinloch and Murray and Simpson, equal; Foster and Goff and Howitt and LeRossignol and Lyman and McFee, equal. *Class III.*—Pritchard; Bryson and Evans, equal; Jamieson, (W. L.); Lindsay and Moss, equal; Cross and Reid, equal; Murphy, Morison, McKenzie and McCusker, equal; Van Horne, Leith, Browne and Irvine, equal; Hall and Massé, equal; England and McDonald and Naismith (P. L.) equal; Thurlow; Brayley, Stafford.

Prizes.—Duke and McLea.

HISTORY.

FIRST YEAR.—*Class I.*—Day, McLea; Macallum and Foster, equal; Lindsay and Bryan and Ritchie, equal; Murray; Duke and Pritchard, equal; Le Rossignol and Reid, equal; Martin and Pedley (H.), equal. *Class II.*—McFee; Cross and Moss, equal; Browne, Masse, Kinloch, Blackader, Morison; England and Lyman and Mason and Turner, equal. *Class III.*—Goff; Holden and Jamieson (W. L.), equal; Murphy and McCusker, equal; Thurlow; Howitt and Lawrence and Mackenzie and Naismith and Simpson, equal; Irvine and Macdonald, equal; Bryson and Hall and McDonald, equal; Evans and Leith and VanHorne, equal.—*Prize.*—Day.

MENTAL AND MORAL PHILOSOPHY.

B. A. ORDINARY.—(*Moral Philosophy*).—*Class I.*—MacFarlane, McLennan (H. S.), Thompson, Macvicar. *Class II.*—Currie (W.), Watson, Budden, Higgins, Whytge, Robertson. *Class III.*—Currie (A.), Grant, Cameron (D.).

B.A.—(*Additional Department in Mental and Moral Philosophy.*)—*Class I.*—MacFarlane and Thompson, equal; Macvicar. *Class II.*—None. *Class III.*—Currie (A), Higgins, Cameron.

THIRD YEAR.—(*Additional Department in Mental Philosophy*).—*Class I.*—Pedley (F) and Sparling, equal; Braithwaite; Macdougall and Yates, equal. *Class II.*—McCulloch, McWilliams, Blair. *Class III.*—Roberts, Clements, Locke, Wallace, Somerville, Smith (R.), *Prize.*—Braithwaite.

SECOND YEAR.—(*Logic*).—*Class I.*—Murray, Johnston (R.), Brown, Walsh; Clay and Hill, equal; Nicholson, Naismith, Johnson (A. R.), McKenzie (Malcolm); Rochester, Whyte (C. W.), and Cameron (W.A.), equal. *Class II.* Henderson, Nichols, Russell, Patton and Bourne, equal; Colby. *Class III.*—Wright, (R.), Sanders, McLeod, (M. J.); Gerrie and Kingston, equal; Solandt, McKenzie (Murdoch), Internoscia, Hart; McAdie and McLeod (Alex.) and MacLean (J. A.), equal.—*Prize.*—Murray.

HONOURS IN MENTAL AND MORAL PHILOSOPHY.

B.A.—*First Rank.*—McFarlane (Prince of Wales Gold Medal).

THIRD YEAR.—*First Rank.*—Braithwaite, Yates, Pedley (F.), MacDougall. *Second Rank.*—Clements.

RHETORIC AND ENGLISH LITERATURE.

THIRD YEAR.—*Class I.*—Swabey, Livingstone and Topp, equal, *Class II.*—Hibbard, McDougall, Dalpé; McRae and Pedley, equal; Sparling, Hargrave. *Class III.*—Fyles and McCullough, equal; McKerchar, O'Sullivan; Clements and McWilliams, equal; Blair, Wallace, Patterson, Roberts, Holden. *First Prize.*—Swabey; *Second Prizes,* Livingstone and Topp.

MODERN HISTORY.

B. A. ORDINARY.— *Class I.*—Colquhoun, McLennan, (G. A.). *Class II.*—Martin, Lochhead and Watson, equal. *Class III.*—MacVicar. *Prize* Colquhoun. (*B.A. Additional Department in English and History*).—*Class I.*—Colquhoun, Martin, McLennan, G. A.

ENGLISH LITERATURE AND HISTORY.

SECOND YEAR.—*Class I.*—Colby, Nicholson, Clay, Johnston, Brown. *Class II.*—Patton and Walsh, equal; McKenzie (Malc.) and Murray, equal; Nicols; Cameron and Sanders and Whyte, equal; Henderson; Bourne and Naismith and Wright, equal; McKenzie (Murd.) Gerrie and Hill, equal; Johnson. *Class III.*—Rochester, Solandt; Kingston and McLeod (M. J.) and Russel, equal.—*Prize.*—Colby.

FIRST YEAR.—*Class I.*—Ritchie, McLea, McFee and Murray and Bryan, equal; Reid, Martin; Cross and Turner and Le Rossignol, equal. *Class II.*—Blackader, Evans, Day; Johnson and Foster and McCallum, equal; Mason, Pedley, Simpson, Bryson. *Class III.*—Howitt, Bell, Murphy, Duke, Lindsay; McCusker and Pritchard, equal; Goff and Morrison, equal; McKenzie (A.); England and Jamieson (W. L.), equal; Lyman, Berwick, Irvine, Massé, Van Horne, Kinloch and Holden, equal; Stafford, Thurlow, Leith, Hall, Browne, Jamieson (D. M.)—*Prize*—Ritchie.

MECHANICS AND HYDROSTATICS.

B. A. ORDINARY.—*Class I.*—McLennan (H. S.). *Class II.*—None. *Class III.*—Robertson, Cameron, McLennan (G. A.); Watson, Currie (W. T.) Macvicar.

THIRD YEAR.—*Class I.*—Clerk, Topp, Livingstone, Braithwaite. *Class II.*—McOuat, Yates, MacDougall, Ritchie. *Class III.*—McCullough, Blair; Evans and Hibbard, equal; Pedley (F.), Sparling, Clements, Wallace, McLean, Chalmers.

ASTRONOMY AND OPTICS.

B.A. ORDINARY.—*Class I.*—Lochhead. *Class II.*—Budden.

THIRD YEAR.—*Class I.*—Topp, MacDougall, Hibbard. *Class II.*—McOuat. *Class III.*—Livingstone.

TRIGONOMETRY AND ALGEBRA.

SECOND YEAR.—*Class I.*—Johnston (Robt.), Nicholson, Clay, Brown, Johnson, (A. R.) Cameron, Walsh. *Class II.*—McLeod, Naismith, Whyte. *Class III.*—Hill, Bourne, Nichols, Sanders, Murray, Colby, Henderson, Patton; Kingston and McKenzie, equal; Rochester, Gerrie, Russell, Internoscia.

FIRST YEAR.—*Class I.*—Goff, Ritchie, Le Rossignol, McLea. *Class II.*—Pritchard; Cross and Pedley, equal; Bryan, Duke, Lindsay, Blackader, McCusker, McKenzie. *Class III.*—McFee; Foster and McCallum, equal; Martin, Moss; Day and Morrison, equal; Reid, Howitt, Turner; England and Murray, equal; Kinloch; Naismith and Thurlow, equal; Evans and Mason, equal; Bryson; Browne and Murphy, equal; Massé.

aeger.—Hall.

GEOMETRY AND ARITHMETIC.

SECOND YEAR.—*Class I.*—Johnston, (R.), Walsh; Brown and Nicholson equal; Johnson, (A. R.) Clay, Hill, Whyte, Gerrie. *Class II.*—Naismith, Patton, Cameron, Henderson, Colby. *Class III.*—McKenzie; Kingston and Nichols, equal; Russell and Wright, equal; Rochester, Bourne, Murray, Sanders, McLeod, Solandt, Internoscia.

FIRST YEAR.—*Class I.*—Le Rossignol and McLea, equal; Bryan, Pedley, Pritchard and Ritchie; equal. *Class II.*—Morison; Cross and Day and Macallum, equal; McFee, Lindsay; Blackader and McCusker, equal; Foster and Goff and McKenzie, equal; Turner, Mason, Browne. *Class III.*—Watt, Howitt; Evans and Jamieson (W. L.), equal; Moss, Duke; Murray and Reid, equal; England and Naismith, equal; Martin, Kinloch McDonald, Massé, Bryson, Simpson.
aeger.—Hall.

EXPERIMENTAL PHYSICS.

Electricity, Magnetism and Sound.

B.A. ORDINARY.—*Class I.*—Stewart, McLennan (H. S.). *Class II.*—Lochhead *Class III.*—Budden, Macvicar, Currie (W. T.), McLennan (G. A.), Cameron, Robertson.

THIRD YEAR.—*Class I.*—Topp, MacDougall. *Class II.*—Clerk, McOuat, Ritchie. *Class III.*—Yates, Holden (Edgar), Bell, Evans, McLean (J. A.); Braithwaite, Wallace, Chalmers.

Honour Eaminations in Mathematics and Natural Philosophy.

THIRD YEAR.—*First Rank Honours.*—Topp. *Prize.*
SECOND YEAR.—*First Rank Honours.*—Johnson (A. R.). *Prize.*
Second Rank Honours.—Johnston (Robert). *Prize.*
FIRST YEAR.—*First Rank Honours.*—Goff. *Prize.*
Second Rank Honours.—Le Rossignol, McCusker, Day.
Prize (in ordinary examination only), Ritchie.

FRENCH.

B. A. ORDINARY.—*Class I.*—None. *Class II.*—Thompson, McLennan (H.S.) *Class III.*—Colquhoun.

THIRD YEAR.—*Class I.*—Dalpé, Clerk, Clements, Ritchie. *Class II.*—Hibbard, Fyles, Patterson. *Class III.*—O'Sullivan, Blair.

THIRD YEAR.—*Additional Department. Class I.*—Clerk, Ritchie.

SECOND YEAR.—*Class I.*—Walsh, Patton, Murray, Nicholson; Hill and Nichols, equal. *Class II.*—Internoscia and Wright, equal; Colby; Brown and Solandt, equal; Cameron, Johnston, Russell. *Class III.*—Henderson; Bourne and Kingston, equal. *Prize.*—Walsh.

FIRST YEAR.—*Class I.*—Day and McLea, equal; Le Rossignol and Reid, and Ritchie and Robinson, equal; McFee, Leith and Murray, equal; Blackader and Pedley, equal; Bryson and Cross, equal; Mason and Massé, equal; Moss and Simpson, equal; Bryan. *Class II.*—Hall and Martin, and Murphy and Turner, equal; Morison, Duke, Evans and Jamieson (W. L.) and Kinloch; Lyman, Rochester. *Class III.*—Howitt; Goff and Holden and Warden, equal; Lawrence, Van Horne, Jamieson (N.) *Prizes.*—Day and McLea, equal.

GERMAN.

THIRD YEAR.—*First Division.—Class I.*—Ritchie. *Second Division.—Class I.*—McCullough.

SECOND YEAR.—*First Division.—Class I.*—Patton —*Class II.*—Johnson (A.R.) *Class III.*—Kingston, McKenzie (Malc.) *Second Division.—Class III.*—Sweeny.—*Prize.*—Patton.

FIRST YEAR.—*Class I.*—Ritchie, Martin; Johnson (E.L.); and Robinson, equal Foster, McFarlane; Reid and Turner, equal; Cross and McFee, equal; Bagg and Murray, equal; Lyman, Blackader. *Class II.*—Murphy and Van Horne, equal; Jamieson (N.) *Class III.*—Brayley, Stafford *Prizes.*—Ritchie, Martin. *Prizes.*—Ritchie, Martin.

HEBREW.

B. A. ORDINARY AND THIRD YEAR.—*Class I.*—McFarlane, Sparling. *Class II.*—Higgins. *Class III.*—Grant, Currie (A.)

THIRD YEAR.—*Class I.*—McWilliams, Sparling. *Class II.*—McRae. *Class III.*—McLean.—*Prize.*—McWilliams

SECOND YEAR.—*Class I.*—Naismith (*Prize*), Clay, Sanders.
Class II.—McRae. *Class III.*—Gerrie, White (C. W.), McLeod.

FIRST YEAR.—*Class I.*—Macallum, (*Prize*) Pritchard. *Class II.*—Lindsay, McKenzie (A.), McKenzie (M.), Irvine, Hart. *Class III.*—Browne, Locke, Naismith, McCusker, McLeod, Thurlow.

NATURAL SCIENCES.

B. A. ORDINARY.—(*Geology and Zoology*).—*Class I.*—Stewart, Lochhead, Budden, Somerville. *Class II.*—Martin and Watson, equal; Robertson, Thompson, Higgins. *Class III.*—Grant; Cameron and Currie (A.), equal; Currie W. T., McIlraith.

(*Geology only*)—*Class I.*—None. *Class II.*—Balfour, Cooke. *Class III.*—Locke.

FOURTH YEAR.—(*Additional Department, Geology of Canada*).—*Class I.*—Budden.
(*Mineralogy*).—*Class I.*—Budden.

THIRD YEAR.—(*Zoology*).—*Class I.*—Livingstone, Swabey, Bell, Evans, McOuat.—*Class II.*—Somerville, Chalmers; Holden and Roberts, equal; Hargrave, Cooke, Pedley.—*Prizes.*—Livingstone, Swabey.

THIRD YEAR.—(*Additional Department, Theoretical and Practical Chemistry and Palæontology. Class I.*—Swabey.

SECOND YEAR.—(*Botany*).—*Class I.*—Murray, Nicholson, Patton, Cameron, W. A.; Mounteer, H. V.; Whyte, C. W.; Brown, Nichols, Walsh, McKenzie, Malc.; Colby, Kingston. *Class II.*—Gerrie, Johnston, R.; Scott, Hill, Clay, Naismith, Balfour, Eagleson, Henderson, A. *Class III.*—Henderson, R. B.; Russell and McKenzie, Murd., equal; Wright, McLeod M. J.; Bourne; Solandt, McLean, F.; Saunders, Locke, Internoscia; Sweeny and Harris, equal; Smith. Rochester, W. M., *Occ.—Prize.*—Murray.

CHEMISTRY.

FIRST YEAR,—(*Chemistry*).—*Class I.*—McLea, Johnson, Ritchie, Martin, Le Rossignol, Cross; Howitt and Macfarlan, equal; Murray. *Class II.*—Bryson, Blackader, Foster, Pritchard, McFee, Mason; Day and Evans, equal; Pedley; Bryan, Goff and McKenzie, equal; Massé, Naismith, Browne, *Calss III.*—McCusker; England and Lyman, equal; Reid; Simpson and Turner, equal; Murphy, Moss; Macallum and Kinloch, equal; Thurlow, Lindsay, Bell; Morison and Watt, equal; Van Horne, Berwick; Irvine and Jamieson (W. L.), equal; (Jamieson D. M.), Duke, Hall, Leith.—*Prizes.*—McLea, Martin.

HONOUR EXAMINATIONS IN NATURAL SCIENCES.

B.A.—*First Rank Honours and Logan Gold Medal.*—Stewart, William G.
First Rank Honours.—Lochhead, (William).

THIRD YEAR.—*First Rank Honours and Logan Prize.*—Swabey, Charles.

METEOROLOGY.

FOURTH YEAR.—*Class I.*—Budden.

MORRIN COLLEGE.

GRADUATING CLASS.

Special Certificates of First Rank General Standing.

ROLPH, NATHANIEL.
FERGUSSON, JOHN A.
SILVER, HERBERT J.
HOME, W. A.
WALTERS, A. H.

SPECIAL COURSE FOR WOMEN.

PRIZES AND STANDING.

MCLEA, ROSALIE MCD.—(Girls High School, Montreal)—Prizes* in Greek, Latin, French and Chemistry.

RITCHIE, OCTAVIA G.—(Girl's High School, Montreal)—Prizes* in Mathematics, English and German.

First Rank General Standing:—McLea and Ritchie, equal.

PASSED SESSIONAL EXAMINATIONS.

McLean and Ritchie, equal; Cross, McFee, Foster, Murray, Reid, Evans, Simpson.

PASSED IN CERTAIN CLASSES AS PARTIAL OR OCCASIONAL STUDENTS.

Blackader, Murphy, Turner, Van Horne, Bagg, Jamieson (N.), Johnson (E. L.), Macfarlan (J. J.), Robinson.

---

* From Income of Hannah Willard Lyman Memorial Fund.

GREEK.

B.A. ORDINARY.—*Class I.*—Fergusson, Home. *Class II.*—Campbell (H. *Class III.*—None.

INTERMEDIATE.—*Class I.*—McLennan, Donn; Langton and McDonald, equal. *Class II.*—None, *Class III.*—Rivard.

LATIN.

B.A. ORDINARY.—*Class I.*—Rolph; Fergusson and Walters, equal; Home and Silver, equal. *Class II.*—None. *Class III.*—Campbell (H).

INTERMEDIATE.—*Class I.*—Donn and McLennan, equal; McDonald. *Class II.*—Langton. *Class III.*—Rivard.

MECHANICS AND HYDROSTATICS.

B.A. ORDINARY.—*Class I.*—Silver; Rolph and Walters, equal; Fergusson. *Class. II.*—Home. *Class III.*—Campbell (H.).

TRIGONOMETRY AND ALGEBRA.

INTERMEDIATE.—*Class I.*—McLennan. *Class II.*—Langton, McDonald. *Class III.*—Rivard.

GEOMETRY AND ARITHMETIC.

INTERMEDIATE.—*Class I.*—McLennan, Langton, Donn, Macdonald. *Class II.*—Rivard.

MORAL PHILOSOPHY.

B.A. ORDINARY.—*Class I.*—Fergusson, Rolph, Silver, Home, Walters. *Class II.*—Campbell.

LOGIC.

INTERMEDIATE.—*Class I.*—Langton, J. F.; MacLennan. *Class II.*—Rivard; Macdonald, (M.S.).

HISTORY.

B.A. ORDINARY.—*Class I.*—Rolph, Fergusson, Silver. *Class II.*—Home, Campbell, Walters.

ENGLISH LITERATURE AND HISTORY.

INTERMEDIATE.—*Class I.*—Langton, McLennan, Macdonald. *Class II.*—Rivard. *Class III.*—Donn.

FRENCH.

B. A. ORDINARY.—*Class I.*—Home, Fergusson; Campbell and Silver, equal; Rolph. *Class II.*—Walters.

Additional Department.—*Class I.*—Rolph and Walters, equal. *Class II.*—Silver

INTERMEDIATE.—*Class I.*—Rivard, Langton, Donn.

HEBREW.

INTERMEDIATE.—*Class I.*—McLennan, McDonald.

ST. FRANCIS COLLEGE.

Intermediate Examination.

Greek.—*Class II.*—Gamble.
Latin.—*Class II.*—Gamble.
Trigonometry and Algebra.—*Class II.*—Gamble.
Euclid and Arithmetic.—*Class I.*—Gamble.
Logic.—*Class I.*—Gamble.
English Literature and History.—*Class II.*—Gamble.
French.—*Class II.*—Gamble.

SUPPLEMENTAL EXAMINATIONS, 1884-85.

PASSED.

Undergraduates.

I.—September, 1884.

(*a*)—Supplemental Sessional Examinations.

Third Year.—Cameron, (D.), Watson.
Second Year.—Bell, Thomas, O'Sullivan.

(*b*)—Supplemental in one Subject.

Third Year.—Robertson, P. M.
Second Year.—Cameron, Chalmers, Clements, Holden, Sanders, Wright.

II.—February, 1885.

(Supplemental to Christmas Examinations.)
(*a*)—Supplemental in two or more subjects.*

Third Year.—Braithwaite, McCullough, McLean.
Second Year.—Sweeny.
First Year.—Bryson, Macallum.

(*b*)—Supplemental in one subject.

First Year.—Browne, Massé.

FACULTY OF APPLIED SCIENCE.

GRADUATING CLASS.

Hedley Vicars Thompson.—Lansdowne Medal; Leslie Skelton Prize; $15 Mathematical Prize; Prizes in Theory of Structures, Designing, Hydraulics, Water-Supply, Heat and Heat-Engines.

---

* In Third Year one or more subjects.

CHARLES WILLIAM TRENHOLME, B. A.—British Association Gold Medal. First Rank Honours in Natural Science; First in special examination in Mining Engineering.

ERNEST McCOURT MACY.—First Rank Honours in Natural Science; British Association Prize.

EDWARD PAYSON MATHEWSON.—First Rank Honours in Natural Science; Prize in Materials.

SAMUEL FORTIER.—Prize in Heat and Heat Engines.

THIRD YEAR.

JOHN GEORGE G. KERRY.—Scott Exhibition; $25 Mathematical Prize; Prizes in Theory of Structures, Water-Supply, Descriptive Geometry, Surveying, Mathematics.

HARMON TRUEMAN.—Prize in Geology and Zoology.

NEVIL NORTON EVANS.—Prizes in Zoology and Practical Chemistry.

ARTHUR WEIR.—Prizes in Experimental Physics and Theoretical Chemistry.

PASSED THE SESSIONAL EXAMINATIONS.

Civil Engineering (*Advanced Course*).

John George G. Kerry.

Civil Engineering (*Ordinary Course*).

IN ORDER OF MERIT.

Frederick William Cowie, George Herbert Dawson, Harmon Trueman, Thomas William Watson.

Mechanical Engineering (*Ordinary Course*).

William Murray Reid.

Mining Engineering (*Ordinary Course*).

Charles Percy Brown.

Practical Chemistry (*Ordinary Course*).

IN ORDER OF MERIT.

Nevil Norton Evans, Arthur Weir.

SECOND YEAR.

ROBERT E. PALMER.—$25 Mathematical Prize; Prizes in Mathematics and Materials.

WILLIAM ARTHUR CARLYLE.—Burland Exhibition of $100.—Prizes in Mathematical Physics and Chemistry.

WALTER FREDERICK FERRIER.—Prize in Zoology.

PASSED THE SESSIONAL EXAMINATIONS.

Civil Engineering.

IN ORDER OF MERIT.

Robert E. Palmer, Daniel Taylor, Victor Frederick W. Forneret, John Plaw Ball.

Mining Engineering.

IN ORDER OF MERIT.

William Arthur Carlyle, Walter Frederick Ferrier, Alfred Roy.

Practical Chemistry.

Robert Moffatt.

FIRST YEAR.

EDGAR SYDNEY M. LOVELACE.—Prizes in Mathematics and French.

CHARLES HERBERT MACNUTT.—Prizes in Chemistry and Drawing.

PASSED THE SESSIONAL EXAMINATIONS.

IN ORDER OF MERIT.

Edgar Sydney M. Lovelace, Charles Herbert Macnutt, Robert Forrest Ogilvy, James Gibbons, Arthur Edward Childs, William Joseph Hamilton, Murdy John McLennan, Lawrence Hunt Hogan, William Joseph.

STANDING IN SPECIAL SUBJECTS.

ESSAYS PREPARED DURING THE SUMMER OF 1884.

FOURTH YEAR.—*Class I.*—Thompson (*Paspediac Branch Ry.*), Fortier (*Wooden Bridges*, Trenholme (*A Blast Furnace*), Macy (*Rockland Slate Quarry Improvements*). *Class II.*—Mathewson (*Theckford Mines,*) Saunders (*Township No. 54, Range 26 W. of IVth Meridian*), Lesage (*Macadamized Road from Lachine to Cote St. Paul.*) *Class III.*—Routhier (*Geology of Co. of Prescott.*)

THIRD YEAR.—*Class I.*—Watson (*Notes on the Pacific Ry.*) and Weir (*Sugar Refining*), equal; Kerry (*Manufacture of Iron Soil Pipes*), Evans (*Nitro-Glycerine and Dynamite*), Cowie (*Notes on Woodstock Observatory.*) *Class II.*—Dawson (*Q. & Lake St. John Ry.*); Brown (*Division III. S. Pa. R. R.*) and Reid (*Locomotive Repairs,*) equal. *Class III.*—Pitcher, (*Forth Bridge*); McCarthy (*Surveying Instruments*) and Trueman (*Nova Scotia Timber*), equal.

SECOND YEAR.—*Class I.*—None. *Class II.*—Carlyle (*A Sketch of the Atomic Theory*) and Moffatt (*Narcotics*), equal ; Forneret (*Locomotives*) and May (*A Direct Acting Plunger-Hoist*), equal ; Palmer (*Starch and its Manufacture*). *Class III.*—Taylor (*Location and Foundation of Drummondville Bridge*); Ball (*Survey of Catholic Cemetery of Charlottetown*) and Walters (*Manufacture of Glass*) and Spencer (*Cadastral Survey District of Beauharnois*) equal ; Darey (*Iron*).

FREEHAND DRAWING.

FIRST YEAR.—*Class I.*—Macnutt *Prize*), Lovelace. *Class II.*—Childs, Hamilton, Ogilvy, Hogan, Gibbons, McTaggart. *Class III.*—Rourke, McLennan, Paquette.

DESCRIPTIVE GEOMETRY.

THIRD YEAR.—*Class I.*—Kerry (*Prize.*) *Class II.*—Cowie. *Class III.*—Dawson, Reid, Trueman, Watson.

THIRD YEAR.—(Mining Course). *Class III.*—Brown.

SECOND YEAR.—*Class I.*—None. *Class II.*—Rinfret, Carlyle ; Taylor and Forneret equal ; Carmichael, Ball, May. *Class III.*—Roy, Spencer.

SURVEYING.

THIRD YEAR.—*Class I.*—Kerry (*Prize*). *Class II.*—Dawson. *Class III.*—Cowie and McCarthy equal ; Trueman.

SECOND YEAR.—*Class I.*—None. *Class II.*—Palmer, Carlyle.
Class III.—Forneret, Ferrier ; Taylor and May, equal ; Ball ; Carmichael and Spencer, equal ; Roy (A).

MATERIALS.

FOURTH YEAR.—*Class I.*—Mathewson (*Prize*) ; Fortier and Macy and Thompson, equal ; Trenholme. *Class II.*—Lesage. *Class III.*—Saunders, Routhier.

THIRD YEAR.—*Class I.*—Kerry (*Prize*), Cowie, Watson, Trueman.
Class II.—Brown, Dawson. *Class III.*—Reid, McCarthy, Pitcher.

SECOND YEAR.—*Class I.*—Palmer (*Prize*). *Class II.*—Spencer.
Class III.—Forneret, Rinfret, Taylor, Carmichael, May, Ball.

MECHANISM.

SECOND YEAR.—*Class I.*—(None). *Class II.*—Palmer, Carlyle, Ferrier.
Class III.—May, Roy, Rinfret, Forneret, Ball, Taylor.

GEOMETRY OF MACHINERY.

THIRD YEAR.—*Class I.*—(None). *Class II.*—Reid.

DYNAMICS OF MACHINERY.

Class I.—None. *Class II.*—Reid.

MECHANICAL WORK.

SECOND AND THIRD YEARS.—*Class I.*—Reid. *Class II.*—May. *Class III.*—Carmichael.

THEORY OF STRUCTURES.

FOURTH YEAR.—*Class I.*—Thompson (*Prize*), Fortier.—*Class II.*—None. *Class III.*—Routhier, Lesage.

THIRD YEAR.—*Class I.*—Kerry (*Prize*). *Class II.*—Cowie. *Class III.*—Watson, McCarthy, Brown, Dawson, Trueman, Reid.

DESIGNING.

FOURTH YEAR.—*Class I.*—Thompson (*Prize*), Fortier, Mathewson, Trenholme. *Class II.*—Macy. *Class III.*—Lesage, Routhier, Saunders.

WATER-SUPPLY.

FOURTH YEAR.—*Class I.*—Thompson (*Prize*), Fortier. *Class II.*—Lesage, Routhier.

THIRD YEAR.—*Class I.*—Kerry (*Prize*); Cowie and Dawson, equal. *Class II.*—Trueman, Watson, Reid. *Class III.*—Pitcher.

HYDRAULICS.

FOURTH YEAR.—*Class I.*—Thompson (*Prize*), Macy. *Class II.*—Fortier, Mathewson, Trenholme. *Class III.*—Routhier, Lesage.

STEAM.

FOURTH YEAR.—*Class I.*—Fortier (*Prize*) and Thompson (*Prize*) equal; Macy, Trenholme. *Class II.*—Routhier, Mathewson. *Class III.*—Lesage.

THEORETICAL CHEMISTRY.

THIRD YEAR.—(*Chemistry Cours*).—*Class I.*—Weir (*Prize*) Evans.

PRACTICAL CHEMISTRY.

THIRD YEAR.—(*Chemistry Course*).—*Class I.*—Evans (*Prize*), Weir.

THIRD YEAR.—(*Mining Course*).—*Class I.*—None. *Class II.*—Brown.

SECOND YEAR.—(*Chemistry Course*).—*Class I.*—None. *Class II.* Moffatt, Walters, Blomeley.

SECOND YEAR.—(*Mining Course*).—*Class I.*—Carlyle (*Prize*). *Class II.*—Ferrier. *Class III.*—Roy (A.).

GENERAL AND PRACTICAL CHEMISTRY.

FIRST YEAR.—*Class I.*—Macnutt (*Prize*), Lovelace. *Class II.*—Hogan, Gibbons, Hamilton, Childs, McLennan; McTaggart and Ogilvy, equal. *Class III.*—Eneas, Rourke, Rinfret.

ASSAYING.

FOURTH YEAR.—*Class I.*—Trenholme, Macy. *Class II.*—Mathewson.

METALLURGY.

FOURTH YEAR.—*Class I.*—Trenholme, Macy. *Class II.*—Mathewson.

MINING.

THIRD YEAR.—*Class I.*—Brown.

MINERALOGY (ADV.) AND BLOWPIPE ANALYSIS.

THIRD YEAR.—*Class I.*—Evans. *Class II.*—Weir, Brown.

GEOLOGY AND MINERALOGY (ADV.)

FOURTH YEAR.—*Class I.*—Macy, Mathewson.

GEOLOGY.

THIRD YEAR.—*Class I.*—Trueman (*Prize*), Kerry, Brown. *Class II.*—Dawson, Cowie. *Class III.*—Watson.

ZOOLOGY.

THIRD YEAR.—*Class I.*—Evans (*Prize*), Weir.

SECOND YEAR.—*Class I.*—Ferrier (*Prize*), Palmer. *Class II.*—Forneret, Carlyle, Ball, Taylor, Spencer. *Class III.*—Roy (A).

BOTANY.

SECOND YEAR.—*Class I.*—Moffatt. *Class II.*—None. *Class III.*—Walters.

ESSAYS.

FOURTH YEAR.—*Turbines.—Class I.*—Fortier and Thompson, equal.
Class II.—None. *Class III.*—Saunders, Lesage, Routhier.
Concentration of Ores.—Class I.—Trenholme, Mathewson, Macy.

THIRD YEAR.—*The Gauging of Rivers and Streams.—Class I.*—Kerry and Trueman, equal; Cowie and Dawson and Watson, equal. *Class II.*—None. *Class III.*—McCarthy, Pitcher.
Brakes.—Class I.—Reid.
Sinking of Shafts.—Class I.—Brown.
Chemistry of Soap.—Class I.—Weir, Evans.

SECOND YEAR.—*The Gauging of Rivers and Streams.—Class I.*—Palmer, Spencer, Taylor. *Class II.*—Rinfret. *Class III.*—Forneret, Ball.
Slide Valves.—Class I. None. *Class II.*—May.
Class III.—Carmichael.

Aluminium.—Class I.—Ferrier, Carlyle. *Class II.*—None.
Class III.—Roy (A).
Artificial Manures.—Class I.—Moffatt. *Class II.*—Walters.

EXPERIMENTAL PHYSICS.

THIRD YEAR.—*Class I.*—Weir (*Prize*), Evans, Kerry. *Class II.*—Cowie, Dawson, Trueman. *Class III.*—Watson, Brown.

SECOND YEAR.—*Class I.*—Ferrier. *Class II.*—Carlyle. *Class III.*—Palmer, Taylor, Roy, Ball.

MATHEMATICS.

FOURTH YEAR.—*Class I.*—Thompson, Macy, Trenholme. *Class II.*—Mathewson. *Class III.*—Fortier, Saunders.

THIRD YEAR.—*Class I.*—Kerry (*Prize*). *Class II.*—Trueman. *Class III.*—Cowie, Dawson, McCarthy, Watson.

SECOND YEAR.—Palmer, Carlyle. *Class II.*—Ferrier. *Class III.*—Taylor, Roy, Forneret, Ball.

FIRST YEAR.—*Class I.*—Lovelace (*Prize*), Ogilvy, Macnutt, Gibbons. *Class II.*—None. *Class III.*—Hamilton, Childs, McLennan.

MATHEMATICAL PHYSICS.

THIRD YEAR.—*Class I.*—None. *Class II.*—Evans; Kerry and Trueman, equal. *Class III.*—Brown, Dawson, Cowie, Weir, Watson.

SECOND YEAR.—*Class I.*—Carlyle, Palmer. *Class II.*—Ferrier, Roy, Taylor Spencer. *Class III.*—Forneret, Ball, May, Moffat.

GERMAN.

SECOND YEAR.—*Class I.*—Carlyle. *Class II.*—Carmichael. *Class III.*—Moffatt, Spencer.

FIRST YEAR.—*Class I.*—None. *Class II.*—Eneas. *Class III.*—Childs.

FRENCH.

FIRST YEAR.—*Class I.*—Lovelace, Ogilvy. *Class II.*—Paquette, Hogan. *Class III*—Rourke, Gibbons, Macnutt, McTaggart.

SECOND YEAR.—*Class I.*—Rinfret. *Class II.*—Ferrier and Palmer, equal; Roy, Forneret. *Class III.*—Taylor, Walters.

ENGLISH COMPOSITION.

THIRD YEAR.—*Class I.*—Evans, Kerry, Weir. *Class II.*—Brown, Watson, Dawson, Reid. *Class III.*—Trueman, Cowie.

SECOND YEAR.—*Class I.*—Carlyle. *Class II.*—Ferrier; Moffatt and Palmer, equal; Carmichael, Spencer. *Class III.*—Walters, Rinfret, Forneret, Taylor, May, Roy, Ball.

ENGLISH LANGUAGE AND LITERATURE.

FIRST YEAR.—*Class I.*—None. *Class II.*—Lovelace, Ogilvy, Macnutt. *Class III.*—Hogan, McLennan, Gibbons, Rourke, Eneas, Childs, Hamilton.

Graduates of the University.

DOCTORS OF DIVINITY.

*Bethune, Rev. John, [ad eundum]. 1843
*Falloon, Rev. Daniel [Hon]..... 1844

DOCTORS OF LAWS AND OF CIVIL LAW.

*Abbott, Christopher, B.C.L. (D.C.L. in course)..... 1862
Abbott, Hon. J. J. C., B.C.L. (D.C.L. in course)..... 1867
*Adamson, Rev. Wm. A. (D.C.L. hon)..... 1850
Badgeley, Hon. Wm. (D.C.L. hon). 1843
*Bancroft, Rev. C., D.D. (LL.D. hon)..... 1870
Blackwood, Right Hon. Frederick Temple Hamilton, Earl of Dufferin (LL.D. hon)..... 1878
Blanford, William Thomas (LL.D. hon)..... 1884
Bond, Rev. Wm., M.A. (LL.D. hon). 1870
Bonney, Rev. Thomas George, D.Sc. (LL.D. hon)..... 1884
Bramwell, Sir Frederick Joseph (LL.D. hon)..... 1884
Butler, Thomas P., B.C.L. (D.C.L. in course)..... 1881
Campbell, Right Hon. Sir John Douglass Sutherland, Marquis of Lorne (LL.D. hon)..... 1883
*Campbell, George W., M.A., M.D. (LL.D. hon)..... 1875
Chamberlin, B., M.A., B.C.L. (D.C.L. in course)..... 1867
Chauveau, Hon. Pierre J. O. (LL.D. hon)..... 1857
Cordner, Rev. John (LL.D. hon).. 1870
Cornish, Rev. George, M.A., (LL.D. in course)..... 1872
*Cushing, Lemuel, M.A. (LL.D. in course)..... 1879
Davidson, Charles Peers, M.A., B.C.L. (D.C.L. in course)..... 1875
*Davies, Rev. Benjamin, Ph.D. (LL.D. hon)..... 1856
Dawson, John William, M.A. (LL.D. hon) LL.D. Edin..... 1857
*Desola, Rev. A. (LL.D. hon)..... 1858
Douglass, Rev. Geo. (LL.D. hon). 1870
*Doutre, Gonzalve, B.C.L. (D.C.L. in course)..... 1873
Duff, Rev. Archibald, M.A. (LL.D. in course)..... 1881
*Falloon, Rev. D., D.D. (LL.D. hon)..... 1862
Frankland, Edward, M.D., D.C.L., Ph.D. (LL.D. hon)..... 1884
Frechette, Louis H. (LL.D. hon)... 1881
Galton, Douglas C. B., D.C.L., (LL.D. hon)..... 1884
Gauthier, Zéphirin, B.C.L. (D.C.L. in course)..... 1883
Gilman, Francis E., M.A., B.C.L. (LL.D. in course)..... 1877
Girouard, Désiré, B.C.L. (D.C.L. in course)..... 1874
Gray, Asa, LL.D. (LL.D., hon)..... 1884
Hall, James (LL.D. hon)..... 1884
Harcourt, Augustus George Vernon, M.A. (LL.D. hon)..... 1884
*Head, Right Hon. Sir Edmund W., Baronet, M.A. (LL.D. hon). 1862
Hemming, Edward J., B.C.L. (D.C.L. in course)..... 1871
*Holmes, Andrew F., M.D. (LL.D. hon)..... 1858
Howe, Henry Aspinwall, M.A. (LL.D. hon)..... 1870
Hunt, T. Sterry, M.A. (LL.D. hon). 1865
Jenkins, Rev. John (DD. Univ. N.Y.) (LL.D. hon)..... 1879
Kerr, William H. (D.C.L. in course)..... 1873
Kirby, James, M.A., B.C.L. (D.C.L. in course) (LL.D. in course)..... 1874
Laflamme, Hon. R. G., B.C.L. (D.C.L. in course)..... 1873
Lawson, G., Ph.D. (LL.D. hon).... 1862
*Lafrenaye, P. R., B.C.L. (D.C.L. in course)..... 1873
Leach, Rev. Wm. T., M.A. (D.C.L. hon)..... 1849
(LL.D. hon)..... 1857
Lefroy, Sir John Henry, C.B., K.C.M.G. (LL.D. hon)..... 1884
*Logan, Sir William E., Kt. (LL.D. hon)..... 1856
*Lundy, Rev. Francis (D.C.L. hon)..... 1843
Lyall, Rev. W. (LL.D. hon)..... 1864
Macdonald, Sir John Alexander, K.C.B., D.C.L. (LL.D. hon)..... 1884
McGregor, James, M.A. (LL.D. in course)..... 1880
MacVicar, Rev. D. H. (LL.D. hon). 1870
Meredith, Edmund A., B.C.L. (LL.D. hon)..... 1857
Miles, Hy. H., M.A. (LL.D. hon)... 1866

Morris, Hon. Alexander, M.A., B.C.L. (D.C.L. in course)..... 1862
Morrison, Rev. Jas. D., M.A. (DD. Union College N.Y.) (LL.D. in course)..... 1880
Moseley, Henry Nottidge, M.A. (LL.D. hon)..... 1884
Parkman, Francis (M.A. Harvard) (LL.D. hon)..... 1879
Petty-Fitzmaurrice, Henry Charles Keith, Marquis of Lansdowne (LL.D. hon)..... 1884
Playfair, Sir Lyon, K.C.B., Ph.D., LL.D. (LL.D. hon)..... 1884
Robins, Sampson Paul, M.A. (LL.D. in course)..... 1880
Rollitt, Albert K. (LL.D. London Uni.,) (LL.D. ad eun)..... 1871
Roscoe, Sir Henry Enfield, Ph.D., LL.D. (LL.D. hon)..... 1884
Roy, Rev. James, M.A. (ad eun) (LL.D. in course)..... 1883
Selwyn, Alfred R. C., F.R.S. (LL.D. hon).. 1881
*Smallwood, Charles, M.D. (LL.D. hon)..... 1856
*Smith, William Stuart (LL.D. hon)..... 1858
Strutt, John William, Lord Rayleigh, M.A., D.C.L. (LL.D. hon). 1884
Temple, Sir Richard Bart, D.C.L., LL.D. (LL.D., hon)..... 1884
Thomson, Sir William, M.A., LL.D., D.C.L. (LL.D. hon)..... 1884
Tylor, Edward Burnett, D.C.L., LL.D. (LL.D. hon)..... 1884
*Vallières de St. Real, Hon. J. R. (D.C.L. hon) 1844
Wickes, Rev. Henry (LL.D. hon).. 1868
Wicksteed, Richard J.M.A. (LL.D. in course)..... 1879
Wilkes, Rev. Henry, M.A., D.D. (LL.D. hon)..... 1870
Wilson, Daniel, LL.D. (LL.D. hon). 1884
Wurtele, Hon. J.S.C., B.C.L. (D.C.L. in course)..... 1882

*Deceased.

DOCTORS IN MEDICINE.

Addison, Jas. L., St. George, O 1884
*Adsetts, John, 1866
Alexander, Robert A., Grimsby, O 1871
Alguire, Duncan O., Cornwall, O 1873
Allard, Emery, Belœil, Q 1866
†Allan, Hamilton, Oconto, Wis 1872
Allan, J. H. B., Montreal 1885
Allen, C. E., East Farnham, Q 1883
Alloway, Thomas Johnson, Montreal 1869
Anderson, Alex., Med. Dept. Indian Army 1866
*Anderson, John C., 1865
Archer, Ths., Wandsworth, Eng 1869
Ardagh, Johnson, Orillia, O 1869
Armstrong, Geo. E., Montreal 1877
*Arnoldi, Daniel [Hon], 1847
Arthur, R. H., Brighton, O
Atkinson, Robert, 1862
Ault, Alexander, Ochkosh, Wis 1860
Ault, Charles, Montreal 1855
*Ault, James F., 1855
Ault, Edwin D., Aultsville, O 1868
Austin, Fred. John, Sherbrooke, Q 1862
Ayer, N., M.A., Sackville, N.B 1880
Aylen, John, Aylmer, Q 1857
Aylen, James, Aylmer, Q 1863
Backhouse, J. B., Braidwood, Ill 1870
Bain, D. S. E., Staff Surgeon Maj. 1868
Bain, Hugh U., Prince Albert, Man 1875
Baird, James G., Pakenham, O 1870
Baird, T. A. D., Chesterfield, O 1885
Baker, Albert, Dawlish Devon, 1848
Barclay, George, Parkhill, O 1870
*Barnston, James [ad. eun], 1856
Barrett, Jos. A., Fenaghvale, O 1884
Battersby, Charles, Port Dover, O 1861
Baynes, Donald, M.A., London, Eng 1876
Baynes, Geo. Aylmer, Winnipeg, Man 1869
Beatty, D., Richmond, Carlt. Co., O 1862
*Beaudet, Alfred, 1865
Beaudry, Louis B., St. Cesaire, Q 1871
Beckstead, M., Lisbon Centre, St Law. Co. N.Y 1878
†Bell, James, Montreal 1877
*Bell, John, M.A., 1866
Bell, Robert, C.E., Ottawa 1878
Bell, Robert W., Peterboro, O 1873
Belleau, Alfred, Quebec 1862
*Bergeron, Joseph, 1870
Bergin Darby, Cornwall, O 1847
Bessey, William E., Montreal 1863
Bender, Prosper, Boston, Mass 1865
Benson, Joseph B., Chatham, N. B 1875
*Bibaud, Jean G., 1843
Blackader, Alex. D., B.A., Montreal 1871
Blacklock, John J., Chesterville, O 1851
*Blanchet, J. B., 1863
Blair, Robt. C., Three Rivers, Q 1865
*Bligh, John W., 1865
Bogart, Irvine D., Mene, O 1859
*Bomberry, Geo. E., 1875
Bonesteel, S. A., Colombus, Neb 1881
Boulter, George H., Stirling, O 1852
Bowser, J. C., Kingston, N B 1883
*Boyer, Louis, 1842
*Boylan, Andrew A., 1857
Boyle, Albert D., Carbonear, Nfld 1877
*Bowman, William E., 1860
Bower, Silas J., Waddington, N Y 1865
*Bradley, William, 1869
*Braithwaite, Francis H., 1863
Brandon, John, Ancaster, O 1867
Breslin, William I., 46th Regiment 1847
Brigham, Josiah S., Philipsburg, Q 1848
Brissette, Henry R., Lowell, Mass 1871
*Bristol, Amos S., Napanee, O 1850
Brodeur, Alphonse, Roxton Falls, Q 1863
Brodie, John, Honolulu, Sdwh Isl 1877
Brooks, Samuel T., St Johnsbury, Vt 1851
*Brouse, William H., 1847
Brouse, Jacob E., Brockville, O 1861
Brossard, J. B. J., Laprairie, Q 1875
Brown, Thos. L., Melbourne, Q 1881
Brown, J. L., Plattsville, O 1879
Brown, Peter E., Ste Anne de Bellevue, Q 1863
Brown, Harry, 405 W. Washington St., Chicago 1873
Brown, Chs. O., 1882
Browne, Arthur A., B.A., Montreal 1872
Bruneau, Adolphe, Sorel, Q 1853
*Bruneau, Olivier T. [Hon], 1843
*Bruneau, Onesime, 1851
Bryson, William G., Fenelon Falls, O 1867
Bucke, Richard Maurice, London, O 1862
*Bucke, Edward H., 1852
*Buckle, John M. C., 1869
Buckley, William P., Prescott, O 1870
Bull, George J., Colorado Springs, Col. 1869
*Bullen, Charles F., 1864
Buller, Frank, Montreal 1879
Burgess, J. A., Listowell, O 1868
Burch, B. F., Walla Walla, Walsh Ter 1866
*Burland, John H., 1863
Burland, Samuel C., Chester, Penn 1877
Burland, William B., Montreal 1872
Burland, William H., Montreal 1875
Burland, Benj. W., Mineville, N Y 1882
Burrows, F. N., Drayton ,O 1885
Burrows, Philip P., Lindsay, O 1866
*Burnham, Robert Wilkins, 1860
*Burns, Alfred J., 1854
Burritt, Horatio C., Toronto, O 1863
Burwash, Henry J., Minneapolis, Minn 1879
*Butler, George C., 1865
Butler, Billa F., Stirling, O 1879
*Buxton, John N., 1849
Cahalan, James, Wyandotte, Mich 1880
†Cameron, Chas. E., Montreal 1883
Cameron D. A., Strathroy 1885
Cameron, Paul, Alexandria, O 1881
Cameron, Duncan H., Emerson, Man 1877
Cameron, James C., Montreal 1874
Cameron, John D., Norway, Mich 1878
*Campbell, Donald Peter, 1860
Campbell, Francis Wayland, Montreal 1860
*Campbell, G. W., M.A., [ad eun], 1843
Campbell, J., New Zealand 1876
*Campbell, Samuel, 1866
Campbell, John, Seaforth, O 1869
Campbell, Lorne, London, Eng 1882
Cannon, Gilbert, Almonte, O 1877
Carmichael, D. A., Mar. Hosp. Serv, Cairo, Ill 1873
Carey, Augur D. L. [ad eun], 1864
Carman, Philip E., Detroit, Minn 1879
Carman, John B., Detroit, Minn 1879
*Carroll, Robert W. W., 1859
Carruthers, Geo., North Bedeque, PEI 1883
Carson, J. H., Lake Park, Minn 1881

*Carson, Augustus, 1843
Carter, Samuel A., Meadow Vale, O 1859
Case, W. Hermanus, Hamilton, O 1879
Cassidy, David M., Med Supt. County Asylum, Lancaster, Eng 1867
Cassidy, Geo. A., Goldstone, O 1885
Cassady, John F., Goderich, O 1856
Dasgrain, Charles E., Windsor, O 1851
Cattanach, Andrew J., Denver, Col 1871
Cattanach, Angus M., Dalhousie Mills, O 1882
Chagnon, Vincelaus G. B., Fall River, Mass 1861
* Chaliner, Francis 1849
Cherry, William, Toledo, Ohio 1869
* Chesley, George Ashbold, 1862
Chevalier, Gustave, Bedford, Q 1860
Chevalier, Napoleon E., Iberville, Q 1873
Chipman, C. J. H., B.A., Ottawa, O 1868
* Chisholm, Alex., Alexandria, O 1878
Chisholm, Murdoch, Bay Roberts, Nfld 1879
Christie, George H., Lachute, Q 1872
Christie, John B., Palaluma, Son Co., Cal 1865
Christie, Thomas, Lachute, Q 1848
Christie, John H., B.A., 833 W 22nd St., Chicago 1875
Christie, Edmund, Chicago 1882
* Church, Charles H., 1862
Church, Clarence R., Ottawa 1868
Church, Coller M., Aylmer, Q 1855
Church, F. W., Aylmer, Q 1880
Church, Levi R., Montreal, 1857
Church, Mills K., Merrickville, O 1864
* Church, Peter H., 1846
Clarke, Hy. J., Winnipeg, Man 1881
Clarke, Octavius H. E., St. Louis, Mo 1870
Clarke, Wallace, B.A., Utica, N.Y 1871
Clarke, Henry J., Pembina, Dakota 1884
Clarke, Richard A., Oakville, O 1870
Clarke, F. G. B, Fordwych Rd Kilburn, London, Eng 1876
Clemesha, John W., Port Hope, O 1867
Clement, Victor A., St. Guillaume, Q 1866
*† Cline, John D., B.A., 1874
Cluness, Daniel, Nanaimo, BC 1870
Codd, Alfred, Winnipeg, Man 1865
*Collins, Charles W., 1869
Collison, R., Norfolk, St Law Co., N Y 1878
Colquhoun, George, Iroquois, O 1876
Comeau, John B., St David, Q 1870
Cook, Guy R., B.A., Louisville, N Y 1876
Cook, Hermon L., Napanee, O 1854
Cook, Sheldon E., Aultsville, O 1884
Cooke, Charles H., Toronto, O 1866
Cooke, Sydney P., Hull, Q 1869
Cooke, W. H., Wolfston, Q 1876
Copeland, William L., Chicago 1872
* Corbett, A. P. M., 1854
Corbett, William H., Brig. Surg Army Med Dept 1854
Corlis, Josiah, St. Thomas, O 1869
Cormack, Wm., Morristown, O 1881
* Corsan, John, 1869
Corson, Douglas, Woodstock, O 1885
Cotton, C. L., Cowansville, Q 1877
Cousins, W. C., Ottawa, O 1882
* Cowley Thomas McJ., 1870
Cowley, D. K., Granby, Q 1880
Cox, Frank, Charlottetown, P E I 1869
Coyle, Henry W., Sorel, Q 1876
Craig, Thornton, Capay, Cal 1876
Craik, Robert, Montreal 1854
Cram, Daniel C., Lawrence, Kan 1872
*Crawford, James [ad eun]. 1854
Crichten. Stuart, Sonora, Cal 1865
Crothers, William, Stanbridge, Q 1876
* Culvers, Joseph B., 1848
* Cuninghame, W. C. Thurlow 1858
Cutter, Frederick A., Sutton, Q 1873
Daly, Guy D. F., 1868
Daly, Walter S., Ogdensburg, U S 1885
* Dansereau, Charles, 1842
Dansereau, Charles 1869
* Dansereau, Pierre, 1835
Davis, Thomas B., Chelsea, Q 1884
Davignon, F. F., Leadville, Col 1871
Dawson, R. B.A., Montreal 1882
Daze, Henri, Montreal 1885
Dearden, G. A., Victoria, B C 1882
*Dease, Peter Warren 1847
DeBonald, C. S., Berthier en haut, Q 1862
DeBoucherville, Charles B., Quebec 1843
DeGrosbois, T. B., Roxton Falls, Q 1868
Demorest, B. G. G., Stirling, O 1852
Derby, W. J., Rockland, O 1882
* Desaulniers, Antoine A., 1863
* Decelles, Charles D., 1841
Dibblee, G. O., Moor's Mills, N B 1880
* Dice, George, 1864
* Dick, James R., 1842
* Dickinson, James S., 1846
* Dickinson, George, 1868
Dickson, William W., Pembroke, O 1863
Digby, F. Winniett, Brantford, O 1863
* Dodd, John, 1864
Doherty, W. W., Kingston, N B 1885
Donnelly, C. H., Waresville, Texas 1860
* Dorion, Severe 1843
* Dorland, Enoch G. 1850
Dorland, James, Milwaukee, Wis 1875
Dougan, Wm., St Catharines, O 1867
Douglass, James [Hon] 1847
Dowling, John F., Egansville, O 1875
Drake, Joseph M., Abbottsford, Q 1861
Dubuc, Charlemagne, Montreal 1864
* Ducket, Stephen, 1853
Duckett, William A., Montreal 1859
Dufort, Thadee A., St Sebastien, Q 1865
Duhamel, Louis Hull, Q 1860
Duncan, George, Fareham, Hants Eng 1866
Duncan, Gedeon M., Bathurst, N B 1871
Duncan, George C., London, Eng 1875
Duncan, James S., Surg. Mag. Army 1858
* Duncan, John, 1871
Duncan, John A., 120 3rd Street Troy, N Y 1884
Duncan, W. T., Fergus Falls, Minn 1882
Dunlop, H. A., Crookston, Minn 1882
* Dunn, William Oscar, 1843
Dunsmore, John M., 1870
Dupuis, Joseph B., Clarenceville, Q 1856
Easton, John. Brockville, O 1852
Eberle, Harry A., Kansas City, Mo 1876
Eberts, D. W., Montreal 1885
Edwards, Eliphalet G., London, O 1855
Edwards, J. S., London, O 1880
Edwards, Oliver C., Qu'appelle, N.W.T 1873
Elder, John, B. A. Huntingdon, Q 1885
Elderkin, Edwin J., Avondale, Hants Co., N S 1884
Elkinton, A. G., Surg. Maj Gren. Guards 1862
Ellison, S. R., 268 W 43rd St N Y 1873
Emery, Gordon J., Minneapolis, Minn 1857

* English, T. F., 1858
* Erskine, John, 1860
Ethier, Calixte, St Eugene, Q 1867
Evans, Griffith, Vet. Dept. Army Woolwich, Eng 1864
Ewing, William, Hawkesbury, O 1873
Falkner, Alexander Lancaster, O 1866
Falls, Samuel K., Chicago 1875
Farewell, G. McGill, Princeton, O 1872
Farewell, W. G., Oshawa, O 1868
Farley, James T., Fremont Centre Mich 1877
Farley, John J., Belleville, O 1873
Faulkner, George W., Stirling, O 1871
Faulkner, D. W., Foxboro, O 1878
Feader, H. C., Chicago, Ill 1881
Feilde, E. C., Prescott,O 1881
Fenwick, George E., Montreal 1847
Fergusson, A. A., Franklin Centre, Q 1864
Fergusson, Alex. R., Dalhousie Mills, O 1866
Ferguson, Wm. A , B.A., Montreal 1884
Finlay, F. G., Montreal 1885
* Finlayson, John, 1834
Finnie, John T., Montreal 1866
*Fisher, John, 1847
* Fitzgerald, James, 1865
Fortier, Louis A., St David, Q 1878
Fortin, Pierre, Montreal 1845
Fortune, Lewis M., Huntingdon, Q 1873
* Foster, Stephen Sewell, 1846
Fraleigh, William S., Gananoque, O 1869
Fraser, H. D., Perth, O 1881
Fraser, Alex. C., Manitowoc, Wis 1877
* Fraser William, 1836
Fraser, William H., 1867
Fraser, Donald M., Stratford, O 1869
Fraser, Donald, Chicago, Ill 1868
Fraser, J. R., Medcalfe, O 1878
Freeman, C. M., Cape Sable Isl., N S 1871
Fuller, W., Grand Rapids, Mich 1866
Fuller, H. LeRoy, B.A., Sweetsburg, Q 1870
Fulton, James H., Montreal 1863
Gale, Hugh, Bad Axe, Mich 1882
* Garvey, Joseph, 1852
Gardner, H. H., San Francisco, Cal 1878
Gardner, John J., Montreal 1883
Gardner, Matthew, Sacramento, Cal 1871
Gardner, William, Montreal 1867
* Gascoigne, Geo. E., 1861
Gaviller, Edwin A., Hamilton, O 1873
* Gauvreau, Elzear, 1855
* Gauvreau, Lewis H., 1836
Gendron, Thomas, St Raymond, Q 1866
Gernon, George W., Marieville, Q 1872
* Gibb, George D., 1846
Gibson, John B., Cowansville, Q 1855
Gibson, W. B , Dunham, Q 1878
* Gibson, Edward B., 1864
Gilbert, Henry L., Sherbrooke, Q 1875
Gillis, John A. F., Summerside, P E I 1877
Gillies, John, Teeswater, O 1867
Gilmour, Angus A., Modesta, Cal 1868
* Giroux, Philippe, 1859
Girdwood, Gilbert P., Montreal 186,
Glen, C. W. E., Chambly, Q 1858
Godfrey, Robert Montreal 1844
Godfrey, Abraham C., Freemantle, Southampton, Eng 1865
* Goodhue, P. J., 1875
Goforth, Franklin, Runcorn, Ches., Eng 1863
Gooding, Chs. E., St. Philip Barbadoes, W I 1884
Gordon, C. M., Aylwin, O 1881
Gordon, Robert, Arlington, Ill 1868
* Gordon, W. W., 1863
Graham, Charles E., Hull, Q 865
Graham, George A., Montreal 1884
* Graham, Henry, 1863
Graham, Kenneth D., Ottawa, O 1875
Grant, Donald J., Woodbridge, O 1863
Grant, James A., Ottawa, O 1854
Grant, Jas. A., B.A., Ottawa, O 1882
Grant, William, Perth, O 1867
Gray, John S., Winnipeg, Man 1876
Gray, Thomas, Paisley, O 1879
Gray, James, Montreal 1883
Gray, W. L., Pembroke, O 1881
Greaves, Henry C., Barbadoes 1877
Greenwood, F. S., St Catharines, O 1878
Greer, T. A., C. SS. Minia, Halifax, N S 1876
* Grenier, L. P. A., 1863
Groves, George H., Carp, O 18 9
Guérin, James, J. E., Montreal 1878
Guest, Thomas F., St Mary's, O 1873
Gunn, James, Durham, Co. Grey, O 1861
Gurd, David F., Montreal 1879
Gustin, Smith, Montreal 1885
Gustin, Wm. Claud, Detroit, Mich 1863
Hagarty, Dan. M. J., Portage la Praierie Manitoba 1866
* Hall, Archibald, [ad eun] 1848
* Hall, James B., 1866
* Hall, J. W., 1848
Hallett, E. O., Truro, N S 1885
Halliday, James T., Peterboro, O 1865
* Hamilton, Andrew W., 1859
Hamilton, Charles S., Demorestville, O 1868
Hamilton, John R., Stratford, O 1871
* Hamilton, Rufus F., 1861
Hamel, Joseph A., Murray Bay, Q 1856
Hammond, J. H., Montreal 1869
Hanna, A. E., Harlem, O 1885
Hannah, Franklin, Lansdowne, O 1879
Hanover, William, Seaforth, O 1875
Hanvey, C. J. B., Yale, B C 1883
Harkin, F. McD., Vankleek Hill, O 1885
Hart, F. W., St Martinville, La 1835
Harvie, J. B., 575 1st St, Troy, N Y 1881
Harvey, Wm. A., Harriston, O 1874
* Harding, F. W. 1868
Harkin, Henry, 1867
* Harkin, William, 1858
Harkness, John, Dickinson's Corners, O 1862
Harkness, Andrew, New Lancaster, O 1869
Harrison, David H., St Mary's, O 1864
Harrison, H. J., Moulinette, O 1883
Hart, George C., Prescott, O 1879
Hannington, E. B. C., Yale, B C 1875
Hawkins, A. C., Halifax N S 1885
Hayes, James, Simcoe, O 1866
Heard, C. DeW., Charlottetown, P E I 1880
Hebert, P Zotique, Whitehall, N Y 1873
† Henderson, Alex. A., Ottawa, O 1870
Henderson, E. G., 1874
* Henderson, Peter, A.M., 1848
Henderson, Andrew, Calgary, N W T 1880
* Henry, Walter [Hon.] 1853
* Henry, Walter J., 1856
Henry, Wm. G., C.P.R. Mattawa, O 1883
Henwood, Alfred J., Brantford, O 1879
* Hervey, Jonas J., 1866
Hethrington, Harry, Hatley, Q 1872
Heyd, H. E., Buffalo, N Y 1881
Hickey, Charles E., Morrisburg, O 1866
Hickey, Samuel A., B.A., Aultsville, O 1874

Higginson, H. A., Winnipeg, Man 1881
Hills, Joseph, Woonsocket, R I 1873
Hingston, W. H., Montreal 1851
Hockridge, Thos. G., London, Eng 1874
* Holden, Rufus, 1844
Holwell, John, Kingston, Jamaica 1868
* Holmes, Andrew F., [ad eun] 1843
Hopkins, Alfred J., Cookshire, Q 1883
Houston, D. W., Cohoes, N Y 1881
Howard, James, Lachine, Q 1867
Howard, Robert, St. John's, Q 1872
Howard, R. Palmer, Montreal 1848
† Howard, R. J. B., B.A., Montreal 1882
Howden, Robert T., Winnipeg, Man 1857
Howey, W. H., C.P.R. Matawan, O 1878
Howitt, Wm. H., Toronto, O 1870
Howland, Francis L., Huntsville, O 1867
Hulbert, E. Augustus, Brooklyn, N Y 1860
Hume, William L., Leeds, Q 1875
* Hunt, J. J., 1881
Hunt, Henry, Williamstown, O 1876
Hunt, J. H., Surg. Maj. Army, Med Dept. 1869
Hunt, Lewis G., B.A., Sheffield, Eng 1871
† Hurd, Ed. P., Newburyport, Mass 1865
Hurdman, Benj. F. W., Inverness, Q 1882
Hurdman, H. T., Aylmer, Q 1835
Hurlbert, George W., Thornbury, O 1859
Hurlbert, Richard W., Mitchell, O 1873
Hutchinson, John A., Bluevale, O 1878
Hutchison, Jas. A., Montreal 1884
Imrie, A. W., Detroit, Mich 1879
Inksetter, D. G., Copetown, O 1880
Irvine, James C., Liverpool, Eng 1866
Irvine, R. T., Carp, O 1885
Irwin, J. L., 205 E Ohio St Chicago 1879
Ives, Eli, Coaticooke, Q 1863
* Jackson, A. T., 1846
Jackson, Wm. Fred., Brockville, O 1873
Jackson, Joseph A., Manchester, N H 1879
* Jamieson, Alex., B.A., 1877
Jamieson, Thos. A., 1875
Jamieson, Chas. J., Winnipeg, Man 1879
Johnson, C. H., Austin, Minn 1884
Johnson, H. D., Charlottetown, P E I 1885
Johnson, James B., London, Eng 1876
Johnson, J. C., Surg. Maj. Army 1867
Johnson, J. R., Spring Valley, Minn 1883
Johnston, Thomas G., Sarnia O 1871
Johnston, W. G., Sherbrooke, Q 1884
Jones, Charles R., Hatley, Q 1874
Jones George N., Burlington, Iowa 1874
* Jones, Thomas W., [ad eun] 1854
* Jones, Jonathan C., 1865
Jones, Wm. Justus, Prescott, O 1856
Jones, A. J. M., Wabash Av., Chicago 1873
Josephs, G. E., Pembroke, O 1881
Kearney, Wm. J., Mariposa, California 1875
Keefer, Wm. N., B.A., Surg. Maj., Bengal Army 1869
* Keeler, Thomas, 1859
† Kelly, Clinton Wayne, Louisville, Ky 1867
Kelly, Patrick N., Rochester, Minn 1884
* Kelly, Wm., 1846
† Kelly, Thomas, Enmore St'n, Demerara 1873
Kempt, William, Lindsay, O 1864
Kennedy, Richard A., Montreal 1864
* Kerr, James, 1858
Killery, St John, Surg. Maj. Army 1862
King, Wm. M. H., St. Sylvestre, Q 1859
King, Reginald A. D., Compton, Q 1868
King, Richard, Peterboro O 1867
* Kirkpatrick, A., 1856
Kittson, John G., St. Paul, Minn 1869
Kittson, Edmund G., Winnipeg, Man 1873
Klock, Robert H., Bryson, Q 1882
Klock, W. H., Aylmer, Q 1885
* Knowles, James A., 1866
* Kollmyer, Alex. H., 1856
Laberge, Ed., St. Philomene, Q 1856
Landor, Thomas H., C. P. R'y., O 1884
Lane, John A., 1877
Lang, Christopher L., Kalamazoo, Mich 1876
Lang, W. A., New Richland, Minn 1881
* Lang, Thomas D., 1866
Langlois, O. X., Amherstberg, O 1875
* Langrell, Richard T., 1865
Larocque, A. B., Montreal 1847
Lathern, J. S., Halifax, N S 1883
Laurin, Edgar J., Deer Lodge, Mon 1881
Law, D. W. C., Bond Head, O 1863
Law, William K., Coleraine, Irel 1877
† Lawford, John B., London, Eng 1870
* Lawrence, Henry J. H., 1862
Leavitt, Julius, Melbourne, Q 1866
Leclere, George, Montreal 1851
Leclair, Napoleon, Lancaster, O 1861
Lee, James C., 1858
* Lee, John Rolph, 1849
Lefebvre, John M., Brockville, O 1879
Legault, D., Salaberry de Valleyfield, Q 1866
Lemoine, C., St. Pierre, Isle d'Orleans 1850
Lepailleur, Leonard, 1848
Leprohon, John L., Montreal 1843
Levi, Reuben, New York, U S 1876
Lindsay, Heriot, St. Johns, Q 1861
* Lister, James, 1862
* Lloyd, H. W., 1879
* Locke, C. F. A., 1872
* Logan, David D., 1842
Logan, Robert, Iona, Mich 1880
* Logan, William, 1833
* Long, Alexander, 1844
Longley, Edmund, 1866
Longpre, Pierre F., Quebec 1848
Loring, J. Brown, Sherbrooke, Q 1883
* Loupret, Andre, 1850
Loux, William, Russell, O 1870
* Loverin, Nelson, 1855
Lovett, William, Ayr, O 1876
* Lucas, T. D'Arcy 1869
Lunam, H., B.A., Campbellton, N B 1881
Lundy, E. L., Surg. Maj. Army 1862
Lyford, Chs. C., Minneapolis, Minn 1879
Lyon, Arthur, Shawville, Q 1861
Maas, Rudolph J., Chicago, Ill 1880
* MacDiarmid, John D., 1847
MacDonald, Angus, St. Paul, Minn 1863
* Macdonald, Colin, 1853
MacDonald, R. T. E., Sutton, Q 1881
MacDonald, Roderick Æneas, Stoney Mountain, Man 1874
MacDonell, Æneas, Ottawa 1840
MacDonnell, R. L., B.A., Montreal 1876
MacFarlane, Wm., Almonte, O 1869
Macfie, James, Fort Covington, N Y 1869
MacIntosh, Robert, Rapid City, N W T 1863
Mack, Francis, Lewis, Amherstburg, O 1866
* Mackie, J. R., 1865
* Macklem, Samuel S., 1859
Maclean, Archibald, Sarnia, O 1867
* Macnabb, Francis A. L., 1870
Macneil, Alex., Kensington, P E I 1883
McArthur, Robert D., Chicago, Ill 1867

McArthur, John A., Port Elgin, O 1879
McArthur, J., Winnipeg 1885
McBain, John, Martintown, O 1874
McCallum, Duncan C., Montreal 1850
McCann, J. J., B.A., Hopkinton, Mass 1878
McCarthy, W., Chicago, Ill 1867
McClure, W., B.A., Montreal 1884
* McConkey, T. C., 1872
McConnell, John B., Montreal 1873
* McCord, John D., 1864
McCorkill, R. K. C., East Farnham, Q 1882
McCormack, N., Pembroke. O 1885
McCormick, Andrew G., Richmond, Q 1874
McCrimmon, Donald A., Lucknow, O 1869
McCrimmon, John, Kincardine, O 1878
McCrimmon, Milton, Palermo, O 1878
McCullough, George, St. Mary's, O 1879
* McCullough, Michael, [Hon.] 1843
McCully, Oscar J. M. A., Baie Verte, N B 1879
McCurdy, John, Chatham, N B 1866
McDermid, Wm., Dunvagan, O 1875
McDiarmid, Donald, Athol, O 1867
McDiarmid, James, Hensall, O 1873
McDonald, Alex., Paisley, O 1883
McDonald, H. J., Alexandria, O
† McDonald, John A., Montreal 1880
McDonald, Jos. D. A., Acton Vale, Q 1873
McDonald, R. C., Spencer, Iowa 1880
McDonald, Roderick, Cornwall, O 1834
McDonald, Alex. R., Trinity, Texas 1882
McDonnell, Alex. R., Alexandria, O 1874
McDonnell, Angus C., Montreal 1852
McDougall, Peter A., Ottawa, O 1864
* McDougall, Peter A., 1847
McEachran, W., Winnipeg, Man 1880
McEwan, Findlay, Carlton Place, O 1870
McGannon, E. A., Lowell, Mass 1881
McGannon, M. C., Brockville, O 1885
McGarry, James, Drummondville, O 1857
McGeachy, William, Iona, O 1867
McGill, William, 1848
* McGillivray, Donald, 1861
McGowan, Henry W., Beebe Plain, Q 1867
McGrath, Thomas 1849
* McGregor, Duncan, 1861
McGuigan, W. J., London, O 1879
* McGuire, Bernard D., 1873
McIlmoyl, Henry A., Clayton, N Y 1876
McInerney, James P., Kingston, N B 1884
McInnes, Walter J., Victoria, O 1865
McIntysh, James, Vankleek Hill, O 1859
McIntosh, Donald J., Vankleek Hill, O 1870
McIntyre, Peter A., Souris, P E I 1867
McKelcan, George Lloyd, Hamilton, O 1860
McKenzie, J. T., Plainfield, O 1885
McKenzie, B. E., B.A., Kingston Road Toronto, O 1880
McKenzie, K. A. J., Portland, Oregon 1881
McKay, John, Woodville, O 1869
McKay, Walter, Courtland, O 1854
McKinley, John K., Bristol, Q 1878
McLaren, Peter, Brudenell, P E I 1869
McLaren, Peter, Paisley, O 1861
McLaren, Peter, Ormstown, Q 1872
McLaren, D. C., B.A., Montreal 1880
* McLean, Alexander, 1860
McLean, J. W., Point Hastings, N S 1883
McLean, Thos. N., Fergus Falls, Minn 1882
McLean, J. M., B.A., Pictou, N S 1884
McLellan, Jas. H., Summerside, P E I 1884
* McLeod, Arch., B.A., NewWestminster, B C 1883
McLeod, James, Charlottetown, P E I 1873
McMeekin, J. W., St. Catharines, O 1885
McMicking, George, Goderich, O 1851
McMillan, Æneas J., Manitou, Col 1874
McMillan, D. L., Alexandria, O 1885
McMillan, Louis J. A., Mansonville, Q 1860
McMillan, John, Pictou, N S 1857
McMurray, Samuel, 1841
* McNaughton, E. P., 1834
McNee, Stewart, Rosemount, O 1879
McNeece, James, 1869
McNeil, Ernest, Vermont River, P E I 1870
McNulty, M., Brashers Falls, N Y 1880
McQuillen, James, Marquette, Mich 1874
* McRae, George, 1876
McTaggart, Alexander, London, O 1860
* McVean, John M., 1865
Madill, John, Alliston, O 1867
Maher, J. J. E., Yew York 1883
Major, George W., B.A., Montreal 1871
Malcolm, John Rolph, Scotland, O 1861
* Malhiot, Alfred, 1846
Malloch, Edward C., Ottawa, O 1863
* Malloch, William B., 1867
Mallory, Albert E., Warkworth, O 1872
Marceau, Louis T., Napierville, Q 1872
Markell, Richard S., Cloverdale, Cal 1867
* Marr, Israel P., 1849
Marr, Walter H., W 33rd St. N. York 1859
Marston, Alonzo W., Hull, Q 1871
Marston, John J., U. S. Army 1863
Martel, Ovide, Montreal 1883
Mason, J. L., M.A., Brailsford, Derby, Eng. 1863
Mattice, Rich. J., Cornwall, O 1875
‡ Mathieson, John H, St. Mary's, O 1871
* Mathieson, Neil, 1870
Mayrand, William, St. Andrews, Q 1847
Meahan, J. C., Bathurst, N B 1884
Meane, John, Staff Srg. Maj. Army 1869
Meek, Jas. A., 20 W. 25th St. New York 1875
* Meigs, Malcolm R., 1865
Menzies, John B., Ft. Gratiot, Mich 1879
* Meredith, Thomas L. B., 1842
Merritt, D. P., B.A., Fitzroy Harbor, O 1884
Metcalfe, Henry J., Thurso, Q 1876
Mewburn, F. H., Winnipeg, Man 1881
Mignault, Henri A., St. Denis, Q 1860
Mignault, L. D., B.A., Montreal 1880
Milles, R., Surg. N. W. Mounted Police, Battleford, N W T 1870
Mills, Thos. W., M.A., Montreal 1878
Miner, Frank L., Abercorn, Q 1877
*Mines, William W., 1874
Mitchell, Fred. H., Winnipeg, Man 1878
Moffatt, John Edw., Staff Surg. Army 1861
Moffat, Walter, Pensacola, Fla 1852
Molson, Wm. A., Montreal 1874
Mongenais, Napoleon, Rigaud, Q 1865
Monk, George H., Dillonton, Q 1875
Moore, Charles S., London, O 1874
Moore, Jehiel T., Tilsonburg, O 1874
Moore, Joseph, 1852
Moore, Richard, 1853
Moore, Robert C., St. Paul, Minn 1869
Moore, William, Algonac, Mich 1881
*Morin, Josh. [Hon.], 1859
* Morrison, David R., 1869
Morrison, John, M.A., Waddington, N Y 1872
Mount, John W., Montreal 1851
Munro, Alexander, Montreal 1876
Munro, James T., Dominionville, O 1872

Muckey, F. S., Medford, Minn 1883
* Murray, Charles H., B.A., 1876
Musgrove, W. J., W. Winchester, O 1882
Neilson, W. J., Winnipeg, Man 1878
Nelles, J. M., Canton, Ill 1875
Nelles, John A., London, O 1850
* Nelson, Horace, 1851
* Nelson, Wolfred [Hon.] 1848
Nelson, Wolfred D. E., Panama, C A 1872
Nelson, W. M. F., Montreal 1884
Nesbitt, James A., Salt Lake City, Utah 1868
Nicol, Wm. R., Watkins, N Y 1872
* Nicholls, Chs. R., 1862
Norton, Thomas, Horning's Mills, O 1874
Oakley, Wm. D., Streetsville, O 1877
O'Brien, Thomas B. P., Srg. Maj. Army 1862
O'Brien, Robert S., Nanaimo, B C 1873
O'Brien, David, Renfrew, O 1873
O'Brien, T. J. Pierce, Kansas City, Mo 1882
O'Brien, Timothy, Brudenell, O 1884
O'Callagan, Cornelius H., 1854
O'Callaghan, T. A., B.A., Wo'ster, Mass 1880
* O'Garr, Peter, 1857
* O'Connor, Daniel A., 1867
O'Dea, James J., Stapleton, Staten Island, N Y 1859
Odell, William, 1849
O'Keefe, Henry, Minto, Dakota 1882
Ogden, H. V., B.A., Milwaukee, Wis 1882
O'Leary, James, St. Pascal, Q 1866
O'Leary, Patrick, Montreal 1859
Oliver, James W., Clifton, O 1868
O'Reilly, Charles, Toronto, O 1867
Osler, Wm., 131 S. 15th St., Philadelphia 1872
Palmer, G. F., Ottawa, O 1885
* Padfield, Charles W., 1868
Painchaud, Edward S. L., Varennes, Q 1848
Pallen, Montrose A., New York 1864
Palmer, Loran L., Toronto, O 1866
* Paquin, Jean M., 1843
* Paradis, Henri 1846
* Paradis, Pierre E., 1867
* Park, George A., 1877
Parke, Charles S., Quebec 1866
Parker, Rufus S., Canton, Mass 1866
* Patterson, James M., 1855
Paterson, James, Winnipeg, Man 1864
* Pattee, George, 1858
Pattee, Richard P., Plantagenet, O 1874
* Patton, Edward K., 1867
Pegg, Austin J., Cayuga, O 1872
Pegg, Charles H., Chicago, Ill 1867
Perks, W. C., Dundas, O 1881
Perrault, Victor, St. Eustache, Q 1852
Perrier, John, Cleveland, Ohio 1868
Perrigo, James, M.A., Montreal 1870
Perry, H. R., Coteau Landing, Q 1873
Phelan, C. J. R., Waterloo, Q 1865
Phelan, James B., Chicago, Ill 1874
*Phelan, Joseph P., 1854
Philip, David L., Brantford, O 1863
Phippen, S. S. C., Owosso, Mich 1883
*Picault, Chas., 1857
Pickup, John W., Brockville, O 1867
Pinsonneault, B., Chicago, Ill 1880
*Pinet, Alexis, 1840
Pinet, Alex. R., St Laurent, Q 1864
Poole, H. E., Rossie, N Y 1880
Porteous, Wm., Pembroke, O 1884
Poussette, A. Courthope, Sarnia, O 1860
Powell, F. H., Ottawa, O 1885
Powell, Israel Wood, Victoria, B C 1860
Powell, Newton W., Cobourg, O 1850
†Powell, Robert H. W., Ottawa, O 1876
Powers, George W., Eaton Cor., Q 1861
Powers, Lafontaine B., Port Hope, O 1867
Pringle, George, Cornwall, O 1855
Pringle, A. F., Northfield, Minn 1880
Prosser, Wm. O., Le Mars, Ply Co. Iowa 1874
Proudfoot, John S., Susp'on Bridge, O 1868
Proudfoot, Alex., Montreal 1869
Proulx, Phileas, Montreal 1844
*Prevost, E. Gilbert, 1859
Pulford, F. W., Stonewall, Man 1880
*Quarry, James J., 1868
*Quesnel, Jules M., 1849
Rae, John Hamilton [Hon], London, Eng 1853
*Rainville, Pierre, 1863
Rambault, J., Dep. Insp. Gen. Army 1859
*Rattray, Charles J., 1871
Rattray, James C., Cobden, O 1874
Raymond, Olivier, Montreal 1850
Read, Herbert H., Halifax, N S 1861
Redner, Horace P., Lonsdale, O 1864
Reddick, Robert, West Winchester, O 1874
Reddy, Herbert L., B.A., Montreal 1876
*Reddy, John [ad eun], 1856
Reed, Thomas D., Montreal 1871
Reed, John A., Sault Ste Marie, O 1871
Reid, Alex. Peter, Halifax, N. S 1858
*Reid, Kenneth, 1864
Renner, W. Scott, Jordan Station O 1884
Reynolds, T. W., Hamilton, O 1881
Reynold, Robert T., Berlin, O 1836
*Reynolds Thomas, 1842
Richard, Marcel, Manchester, N H 1864
Richmond, P.E., Mount Pleasant, Minn 1873
Ridley, Henry Thomas, Hamilton, O 1852
*Rielle, Etienne R. E., 1857
Riley, Oscar H., Moer's Forks, Clinton Co., N Y 1879
Rinfret, Ferdinand R., Quebec 1868
*Rintoul, David M., 1854
Richardson, John R., Archer av., Chicago 1865
Riordan, B. L., Toronto, O 1880
Ritchie, Arthur F., B.A., Duluth, Minn 1876
Ritchie, John L., Army Med. Dept. 1874
*Roberts, Edward T., 1859
Roberts, John E., B.A., Montague, Jam., W I 1867
Robertson, A. M., Brockville, O 1885
Robertson, James E., Montague, P E I 1865
Robertson, David, Milton, O 1864
Robertson, David T., Lennoxville, Q 1857
Robertson, Patrick, St Andrews, Q 1867
Robillard, Adolphe, Ottawa, O 1860
Robinson, Stephen J., Brantford O 1876
Robinson, Wesley, Markham, O 1877
Robitaille, Louis, New Carlisle, Q 1860
Robitaille, L. T., Quebec 1858
†Roddick, Thomas G., Montreal 1868
Rodger, Thomas A., Montreal 1869
Rogers, E. J. A., Denver, Col 1881
Rogers, Amos, Ottawa, O 1874
Rooney, R. F., Auburn, Placer Co., Cal 1870
†Ross, George, M.A., Montreal 1866
†Ross, James, B A., Dundas, O 1881
Ross, G. T., Montreal 1880
Ross, L. D., Montreal, Q 1884
Ross, W. K., Goderich, O 1883
Ross, Thomas, 1863
*Ross, Henry, 1872
Ross, William G., Ashburt, New Z 1871

*Ross, Wm. D., 1875
Ross, J. W., Cohoes, N.Y. 1881
Rowell, G. B., Abbottsford, Q 1884
Rugg, Henry C., Perth, O 1865
*Rumsey, William, 1859
Rutherford, M. C., Fergus Falls, Minn 1879
Rutherford, Clarendon, M.A., Chicago 1882
Rutledge, And. J., Bayfield, O 1883
Ruttan, Allen, Napanee, O 1852
Ruttan, A. M., New York 1880
Ruttan, R. F., Montreal 1884
*Sabourin, Moise, 1849
Sampson, James [Hon], 1847
Sanderson, George W., Toronto, O 1850
Savage, Thos. Y., Thistletown, O 1854
*Savage, Alex. C., 1866
*Sawyer, James H., 1863
*Schmidt, Samuel B., 1847
*Schofield, David T., 1854
Scott, John G., Hazeldean, Co Carlt, O 1879
Scott, Stephen A., 1854
*Scott, Wm. E., 1844
Scott, Wm. F., Hull, Q 1875
Scott, W. McE., Winnipeg, Man 1883
*Scriven, George Augustus, 1846
Seager, Francis R., Brigden, O 1870
Secord, Levi, Bright, O 1876
Setree, Edward W., Heuvelton, N Y 1878
Seguin, André, Rigaud, Q 1848
Senkler, A. E., St Paul, Minn 1863
Serviss, T. W., Selina, Frisco Co., Cal 1881
Seymour, M. M., Winnipeg, Man 1879
*Sewell, Stephen C. [ad eun], 1843
Sewell, Colin [ad eun], Quebec 1869
Shanks, J. C., Howick, Q 1881
Sharp, J. C., Maysville, N B 1885
Sharpe, Wm., South Toledo, Ohio 1872
Shaw, Alexander, Watertown, Dak 1882
Shaw, W. F., Bracebridge, O 1879
Shaver, Peter Rolph, Stratford, O 1854
Shaver, W. H., Wales, O 1883
*Shaver, R. N., 1857
Shibley, J. L., Yarker, O 1885
Shepherd, Francis J., Montreal 1873
Sherk, George, Cheapside, O 1865
Shoebottom, Henry, Port Huron, Mich 1857
Shufelt, W. A., New York, N.Y. 1881
Sihler, G. A., Simcoe, O 1883
*Simard, Amable, 1852
Simpson, Thomas, Montreal 1854
Sinclair, Coll, Aylmer, O 1874
Small, H. B., Ottawa 1880
* Smallwood, John R., 1868
Smellie, T. S. J., M.A., Pr Arthur's Ldg, O 1877
Smiley, J. S., Portsmouth, Iowa 1880
*Smith, Daniel D., 1868
Smith, Daniel F., Walkerton, O 1878
Smith, E. H., Fullarton, Neb 1881
*Smith, Edward W., 1859
Smith, John, Portland, Oregon 1879
Smith, Norman A., Frelighsburg, Q 1870
Smith, William, Lachute, Q 1876
Smith, Edward W., A.B. West Merriden, Conn 1882
Smith, W. A. de W., Montreal Q 1884
Smyth, H. E., Marlboro', Mass 1884
Smythe, T. W., Colonel 100th Regt 1848
Snider, Frederick S., Teeterville, O 1876
Sparham, Terence, Brockville, O 1841
Sparham, E. B., 1852

Spear, Andrew M., Danville, Q 1874
Spencer, R., Brandon, Man 1879
*Squire, William Wood, M.A., 1864
Stafford, Fred. J., Little Bay, Nfld 1878
Stanton, George, Simcoe. O 1868
Stark, George A., Milwaukee, Wis 1872
*Staunton, Andrew, 1846
Stephen, William, Montreal, Q 1881
Stevens, Alex. D., Dunham, Q 1857
Stevenson, Charles N., Coaticook, Q 1876
Stevenson, Hans, Wakefield, Q 1880
Stevenson, J. M., Bryanston, O 1856
*Stevenson, John L., 1855
*Stevenson, John A., 1873
Stevenson, Robert A., Strathroy. O 1871
Stewart, Alexander, Palmerston, O 1872
Stewart, Andrew, 1884
*Stewart, John Alexander, 1862
Stewart, James, Montreal, Q 1869
Stewart, J. O., 1880
Stephenson. James, Iroquois, O 1850
Stimpson, Alfred O., Thompson, Pa 1868
St. John, Leonard, Chicago, Ill 1872
Storrs, Arthur, Mexborough, York, Eng 1876
*Strobridge, James Gordon, 1862
Struthers, A. D., Frelighsburg, Q 1881
Struthers, K. B., Rochester, Minn 1883
Stroud, Charles S., Norway, Benton Co., Iowa 1876
*Sutherland, Fred. Dunbar, 1864
Sutherland, Walter, Ormstown, Q 1871
*Sutherland, William, 1836
*Sutherland, William, 1870
Sutherland, William Dunbar, Montreal 1879
Switzer, Egerton R, Salina, Ks 1865
Tabb, Silas E., M.A., Sherbrooke, Q 1869
*Tait Henry Thomas, 1860
Taylor, Wm. H., Peterboro, O 1859
Taylor, Sullivan A., Gilmanton, N H 1870
Tew, Herbert S., Wakefield, York, Eng 1864
Temple, James A., Toronto 1865
Thayer, Linus O., Montreal 1859
*Theriault, F. D., 1863
Therien, Honore, Bedford, Q 1863
*Thompson, James, 1842
Thompson, Robert, Brantford, O 1852
Thompson, Wm. A., New Richmond, Q 1882
Thornton, Hastwell W., B.A., New Richmond, Q 1882
Tracey, A. W., West Meriden, Conn 1873
Trenholme, Edward Henry, Montreal 1862
*Trudel, Eugene H., 1844
Trueman, J. E., Macan, N S 1881
Turgeon, Louis G., Montreal 1860
Tuzo, Henry A 1853
†Tunstall Simon J., B.A., Litton, B C 1875
Usher, Henry, Walkerton, O 1861
Vannorman, J. M., Detroit, Mich 1890
Vercoe, Henry L., Seaforth, O 1865
Vicat, John R., Melbourne, Q 1867
†Vineberg, Hiram N., Portage la Prairie, Man 1878
Wagner, A. Dixon, Cornwall, O 1872
Wagner, G. C., Dickinson's Ldg, O 1881
*Wagner, William H., 1844
Wakeman, William, Quebec 1866
Wales, Benjamin N., Robinson, Q 1874
*Walker, Robert, 1851
Walker, Felix D., Launching, P E I 1884
Wallace, Isaac U., Milton, Q 1874
Walsh Edmond C., Madrid, N Y 1866
Walton, George O., Barbadoes, W I 1873

Wanless, John R.,	Dunedin, New Z	1867
Ward, William T.,	Morristown, Minn	1873
Ward, Michael O'B.,	Montreal	1875
Warren, Frank,	Brooklin, O	1872
*Warren, Henry,		1860
Waugh, William,	London, O	1872
Weagant, C. A.,	Yarker, O	1879
Webb, James T. S.,	Montreal	1871
Webster, Arthur D.,	Edinburgh, S	1878
Weilbrenner, Remi,	Port Neuf, Q	1851
*Weir, Richard,		1852
*Wherry, John,		1862
Whitecomb, Josiah G.,	Omaha	1848
Whiteford, James W.,	Winnipeg, Man.	1873
Whiteford, Richard,	Toledo, Ohio	1857
Whitwell, W. P. O.,	Philipsburg, Q	1860
*Whyte, Joseph A.,		1870
Wigle. Hiram,	Wiarton, O	1875
*Widmer, Christopher [Hon]		1847
*Wilcox, Marshall B.,		1868
Williams, J.,	Boston, Mass	1881
Williston, H. V., M.A.,	Newcastle, NB	1879
Willson, J. A. K.,	Manotick	1885
Wilson, Benjamin S.,	Belleville, O	1866
*Wilson, Robert M.,		1850
Wilson, William,	Ottawa	1857
Wilson, Samuel F.,	Millstream, Kings Co., N.B	1884
*Wilscam, John Wilbrod,		1846
Wishart, D. G.,	Madoc, O	1885
Woolverton. Algernon, M.A.,	Hamilton, O	1867
Woods, David,	Staff Surgeon Army	1860
†Wood, Edwin Geo.,	Mitchell, O	1885
Wood, George C.,		1849
Wood, George,	Faribault, Minn	1863
Wood, Ed. S.,	Faribault, Minn	1883
Wood, Hannibal W.,	Knowlton, Q	1865
Woods, Jno. J. E.,	Aylmer, Q	1875
Woodful, Sam. Pratt., Surg. Maj		1864
Woolway, C. J.	Copper Falls, Mich	1875
*Workman, Benjamin,		1853
Workman, Joseph,	Toronto	1835
Worthington, Edward [ad eun]	Sherbrooke, Q	1868
Wright, John W., B.A.,	Picton, O	1878
Wright, Henry P.,	Ottawa	1872
Wright, Stephen,	Ottawa, O	1859
Wright, William,	Montreal	1848
Wye, John H.,	22 Upper Woburn Pl, London	1868
Young, Philip R.,	Clarenceville, Q	1876
Young, Robert C.,	Ridgetown, O	1873
Youker, William,	Stirling, O	1807

*Deceased

†Medallist.

MASTERS OF ARTS.

(*For Addresses see list of Bachelors of Arts and of App. Science.*)

Allworth, Rev. John, B.A. ... 1875
Amaron, Rev. Calvin E., B.A. ... 1880
Ami, Henry Mark, B.A. ... 1885
Archibald, John S., B.A. ... 1877
*Bancroft, Rev. Charles [ad eun] ... 1856
Bancroft, Rev. C., B.A. ... 1870
Baynes, Donald, B.A. ... 1867
Bethune, Meredith Blenkarne, B.A. ... 1869
*Bothwell, John A., B.A. ... 1868
Bowman, Wm. M... (Hon) ... 1859
Boyd, John, B.A. ... 1864
*Butler, Rev. John....(Hon) ... 1852
Cameron, Rev. James, B.A. ... 1874
Carmichael, Rev. J. B., B.A ... 1871
Chamberlin, Browne, B.C.L. (ad eun) ... 1857
Chandler, George H., B.A. ... 1879
Chapman, Rev. Charles, M.A., London Univ. (ad eun) ... 1872
Clarke, Wallace, B.A., M.D. ... 1872
Clowe, John D., B.A. ... 1874
Cornish, Rev. George, B.A. ... 1863
Craig, James A., B.A. ... 1883
Crothers, Rev. William J., B.A. ... 1875
Cunningham, Rev. Thos. E., B.A. ... 1883
*Cushing, Lemuel, B.A., B.C.L. ... 1867
Dart, William J., B.A. ... 1874
Darey, J. Herbert, B.A. ... 1885
Davidson, Rev. James, B.A. ... 1866
Davidson, Charles P., B.A., B.C.L. ... 1867
Davidson, Leonidas H., B.A. ... 1867
Dawson, Rankine, B.A., M.D. ... 1882
Dawson, William B., B.A. ... 1879
Dey, Rev. William J., B.A. ... 1875
Dewey, Finlay McN., B.A ... 1882
DeWitt, Caleb J., B.A ... 1864
Dickson, George, M.A., Victoria Col. (ad eun) ... 1879
Donald, James T., B.A. ... 1882
Dougall, John Redpath, B.A. ... 1867
Duff, Rev. Archibald, B.A. ... 1867
Duncan, Alexander E., B.A. ... 1875
Ells, Robert, B.A. ... 1875
Empson, Rev. John, B.A. ... 1879
Forneret, Rev. George A., B.A. ... 1880
*Gibb, George D., M.D....(Hon) ... 1856
Gibson, Thomas A....(Hon) ... 1856
Gilman, Francis E., B.A. ... 1865
Gould, Edwin, B.A. ... 1860
Graham, John H....(Hon) ... 1859
Green, Joseph, B.A. ... 1864
*Haight, Frederick S., M.A., Williams Col. (ad eun) ... 1881
Hall, Rev. Wm., B.A. ... 1867
Hart, Lewis A., B.A. ... 1869
*Hicks, Frank W., B.A. ... 1870
Hindley, Rev. John, B.A. ... 1873
Howe, Henry Aspinwall....(Hon). ... 1855
Jones, Montgomery, B.A ... 1873
Kahler, Frederick A., B.A. ... 1872
Keays, Chas. H., B.A. ... 1883
*Kemp, Rev. Alexander F....(Hon) ... 1863
Kennedy, George T., B.A. ... 1872
Kennedy, Rev. John, B.A. ... 1860
Kirby, James, B.A., B.C.L. ... 1862
Krans, Rev. Edward H., B.A. ... 1875
Laing, Rev. Robert, B.A. ... 1877
*Leach, Robert A., B.A., B.C.L. ... 1869
Lighthall, Wm. Douw, B.A ... 1885
Lyman, A. Clarence, B.A. ... 1881
Lyman, Henry H., B.A. ... 1880
McCord, David R., B.A., B.C.L. ... 1867
McGregor, Duncan, B.A. ... 1864
McGregor, James, B.A. ... 1868
*McIntosh John, B.A. ... 1878
McLaren, John, R., B.A. ... 1868
McLennan, Rev. Duncan H., B.A. ... 1875
Markgraf, Charles F. A....(Hon) ... 1865
Mason, James L., B.A. ... 1868
Mattice, Corydon J., B.A. ... 1862
Morris, Alex., B.A., B.C.L. ... 1852
Morrison, Rev. James D., B.A. ... 1868
Morrison, John, B.A. ... 1870
Munro, Rev. Gustavus, B.A. ... 1874
Naylor, W. H., B.A. ... 1885
Newnham, Rev. Jarvois A., B.A. ... 1883
*Perkins, John A, B.A. ... 1862
Perrigo, James, B.A. ... 1869
*Plimsoll, Reginald J., B.A. ... 1867
Ramsay, Robert A., B.A., B.C.L. ... 1867
Robins, Sampson Paul, B.A. ... 1868
*Rodger, David....(Hon) ... 1856
Ross, Geo., B.A., M.D. ... 1866
Roy, Rev. James, M.A., Victoria Col. (ad eun) ... 1879
Scrimger, Rev. John, M.A., Toronto University (ad eun) ... 1884
Shaw, Rev. W. J., M.A., Victoria Col. (ad eun) ... 1880
*Stewart, Rev. Colin Campbell, B.A. ... 1870
Sweeney, James F., B.A. ... 1881
Tabb, Silas Everett, B.A. ... 1869
Taylor, Rev. Ernest M. ... 1882
Thornburn, John....(Hon) ... 1861
Trenholme, Norman W., B.A., B.C.L. ... 1878
Torrance, Rev. Edward F., B.A. ... 1874
Wallace, Rev. R. W., B.A. ... 1875
Ward, George B., B.A. ... 1880
Whillans, Rev. Robert, B.A. ... 1883
Wicksteed, Richd. J., B.A., B.C.L. ... 1866
*Wilkie, Daniel... (Hon) ... 1869
Wilson, John, B.A. ... 1870
Wotherspoon, Ivan Tolkein, B.A. ... 1869

*Deceased.

MASTERS OF ENGINEERING.

Dawson, William B., B.A., B.A.Sc. ... 1880
McLeod, Clement H., B.A.Sc. ... 1878
Waddell, J.A.L., B.A.Sc. (ad eun) ... 1882

MASTERS OF APPLIED SCIENCE.

Adams, Frank, B.A.Sc. ... 1884
Thompson, Wm. T., B.A.Sc. ... 1882
Wardrop, Norval, B.A.Sc. ... 1884

BACHELORS OF CIVIL LAW.

*Abbott, Christopher C.... 1850
Abbott, Harry, 11 Hospital St., Montreal..... 1878
Abbott, John J. C., 11 Hospital St., Montreal..... 1854
Abbott, John B., 11 Hospital St., Montreal.. 1874
Adam, Joseph, 38 St. James St., Montreal..... 1878
Adams, Abel, Waterloo..... 1867
Allan, Irvine..... 1882
Alguire, J. C., Montreal..... 1880
‡Archibald, John Sprott, M.A., 102 St. Francois Xavier St., Montreal..... 1870
Archambault, Henri..... 1874
Archambault, Joseph L.C., 488 Craig St., Montreal... 1871
Armstrong, Louis, 11 St. James St., Montreal..... 1861
Ascher, Isidore G., Montreal..... 1863
‡Atwater, Albert W., Montreal..... 1880
Austin, Joseph E., Montreal..... 1880
Aylen. John, M.D., Aylmer, Q..... 1861
Aylen, Peter, B.A..... 1854
Aylmer, Henry, Hon. jun., Melbourne, Q..... 1881
*Badgley, Frank H..... 1852
Bagg, Robert Stanley Clark, 19 St. James St., Montreal..... 1871
Bampton, George E., Lachute..... 1879
Baril, Joseph, Montreal..... 1884
Barnard, Arch. E., Montreal..... 1882
Barnston, John G., Manitoba..... 1856
Barry, Denis, 6 St. James St., Montreal.. 1872
Baynes, Edward Alfred, Montreal..... 1867
Baynes, O'Hara, Montreal..... 1874
Beaudin, Simeon, 44 St. Vincent St., Montreal..... 1878
Beauchamp, Joseph, 89 St. James St., Montreal 1878
Beaudet, Omer, Lotbiniere, Q..... 1882
Bergeron, Horace, Beauharnois, Q..... 1877
Benjamin, Lewis N., Montreal.. 1863
Beaubien, Nap. H., Yamachiche, Q..... 1877
Berthelot, Louis H., 7 Beaver Hall Sq., Montreal..... 1878
Berthelot, Jos. B., Montreal..... 1880
‡Bethune, Meredith B., M.A., 11 St. Sacrament St., Montreal..... 1869
Birny, Jean, B.S., Montreal..... 1880
Bisaillon, Francois Joseph, 11 Place d'Armes Hill, Montreal..... 1876
Bissonnette, Louis A., 36 St. Vincent St., Montreal..... 1878
* ‡Bothwell, John A., B.A..... 1866
Bouthillier, Charles F., 57 Union avenue, Montreal..... 1867
Boyd, John, B.A., Toronto..... 1864
Bowie, Duncan E., Montreal..... 1873
Brakenridge, James W., Montreal..... 1880
Branchaud, Athanase, 14 St. James St., Montreal..... 1862
Brooke, C. J., 58 St. Francois Xavier St., Montreal..... 1878
Brooke, George H., Aylmer, Richmond, Q 1882
Buchan, John S., St. Andrews, Q. 1884
Bullock, Wm. E., B.A..... 1863
Busteed, E. B., 273 Bleury St., Montreal. 1879
Butler, Thomas P., Montreal.... 1865
Cameron, John D., B.A., Dewittville, Q.. 1885
Capsey, George, Bedford, Q 1877
Calder, John, 67 St. Sulpice St., Montreal. 1871
Carden, Henry..... 1860
Caron, Adolphe P., Quebec..... 1865
Carter, Christopher B., 103 St. Francois Xavier St., Montreal..... 1866
*Carter, Edward, Q.C., Montreal..... 1864
Carter, Geo. F., 31 Cadieux St., Montreal. 1879
Chamberlin, Brown, Ottawa..... 1850
Chamberlain, John, jun..... 1867
Chambers, A., Busteed, Napanee..... 1875
Charland, Alfred..... 1863
Charette, Pierre P., Montreal..... 1877
Chauret, Amedee, Montreal 1873
Chauveau, Alexandre, Quebec..... 1867
Choquette, Frs. X 1874
Choquet, Ambroise, 42 St. Sulpice St., Montreal..... 1865
Claxton, Albert G. B., Montreal 1885
Cloran, Henry Joseph, Montreal..... 1882
Cornell, Z. E., Montreal..... 1879
Couillard, Edouard, 56 St. Gabriel St., Montreal..... 1875
Couillard, Jean B..... 1866
Coutlee, Lewis W. P., Hull, Q..... 1873
Conroy, Robert Hughes, Aylmer, Q..... 1869
Cooke, Joseph P., Mont eal..... 1880
Cooke, Geo. F., B.A..... 1884
Cowan, Robert C., 235 St. James St., Montreal..... 1862
Crankshaw, James, Montreal..... 1882
Creighton, J. G. Aylwin, Montreal..... 1880
*Crimmen, W. J..... 1878
Cross, A. S., St. James St., Montreal.... 1878
Cross, Alexander, Ormstown, Q..... 1881
Cross, William Heber, Montreal..... 1882
Crothers, Robert A., B.A., Bedford, Q.. 1878
Cruikshank, William G., 60 St. James St., Montreal..... 1872
Cullen, James, Chateauguay, Q..... 1884
Curran, Joseph C..... 1862
Cushing, Chs., 110 St. James St., Montreal 1869
*Cushing, Lemuel, jun., M.A..... 1865
Daly, J. C..... 1858
Dansereau, Arthur, Montreal 1865
Dansereau, Clement, 62 St. Hubert St., Montreal 1877
Darby, Daniel, Waterloo 1870
Darey, Pierre J., M.A., Montreal..... .. 1868
David, Alphonse, 186½ Notre Dame St., Montreal..... 1872
Davidson, Charles P., M.A., 182 St. James St., Montreal.. 1863
Davidson, Leonidas Heber, M.A., 217 St. James St., Montreal..... 1864
Day, Edmund T., 192 Notre Dame St., Montreal..... 1863
DeBeaumont, Alfred L., Montreal..... 1880
Decary, Alderic, 188 St. Denis St., Montreal 1879
Demers, Jean Baptiste, Montreal..... 1883
De Martigny, Charles L., Montreal..... 1880
De Martigny, Alphonse L., Varennes, Q. 1881
Desaulniers, Alexis L 1861
Desaulniers, Henri Lesieur, Montreal.... 1864
Desaulniers, Dionis, 223 Notre Dame St., Montreal..... 1876
Desmarais, Odilon, St. Hyacinthe..... 1876
Des Rivieres, Rodolphe, 15 St. Vincent St., Montreal..... 1875

Desrochers, Jean L. B. ... 1863
DesRosiers, Joseph, 221 St. Lawrence St., Montreal ... 1873
Dickson, W. E., Montreal ... 1883
Doak, George O., Coaticook, Q ... 1863
‡ Doherty, Charles J., 13 Hospital St., Montreal ... 1876
Doherty, Thomas J., Montreal ... 1868
Dorion, Adelard A. L., 160 Notre Dame St., Montreal ... 1862
Dorion Louis C. W., 24 St. James St., Montreal ... 1877
Dore, Pierre J., Laprairie ... 1880
* Doutre, Gouzalve ... 1861
Doutre, Pierre ... 1858
Downie, D., Montreal ... 1880
Driscoll, Netterville H., 64 St. James St., Montreal ... 1861
* Drummond, William D. ... 1867
Dubuc, Joseph, Manitoba ... 1869
Duchesnay, Henry, J. T., Beauce, Q. ... 1866
‡ Duclos, Charles A., B.A., Montreal ... 1884
Duffett, Henry J., B.A., Megantic, Q. ... 1885
Duffy, Henry T., B.A., Sweetsburg, Q. ... 1878
Duhig, John T., Quebec ... 1882
Dugas, Francois O., Montreal ... 1880
Duncan, Alexander E., B.A., Montreal ... 1879
Dunlop John, 102 St. Francois Xavier St., Montreal ... 1860
Duprat, Pierre N ... 1866
Durand, Nephtalie, 61 St. Sulpice St., Montreal ... 1864
Ethier, Leandre, 352½ Lagauchetiere St., Montreal ... 1879
Ethier, Marc, 25 St. Gabriel St., Montreal 1877
Fair, John, jun., Montreal ... 1883
Falconer, Alex., B.A., Montreal ... 1884
Faribault, Joseph E., L'Assomption, Q. ... 1878
Farmer, Wm. O., Montreal ... 1866
Fay, John E., Knowlton, Q. ... 1878
Fisher, Roswell C., Montreal ... 1869
Fisk, John J., Coaticooke ... 1868
Fleet, Charles J., B.A., Montreal ... 1879
Foran, Thomas P ... 1870
Forget, Adelard, 64 St. Gabriel St., Montreal ... 1877
Forster, Joseph L., Montreal ... 1881
Foster, George G., Knowlton, Q ... 1881
Franks, Albert W ... 1871
*Gardiner, Wm. F ... 1856
Galarneau, Joseph Antoine ... 1864
Galbraith, William, Kingston, O ... 1875
Garon, Alphonse P ... 1882
Gaudet, Oscar, 160 Notre Dame St., Montreal ... 1878
Gauthier, Antoine N., Sault au Recollet, Q ... 1881
Gauthier, D. Z., Sorel, Q ... 1859
Gelinas, A., Manitoba ... 1879
Geoffrion, Christopher A., 40 St. James St., Montreal ... 1868
Gibb, James R., Montreal ... 1868
Gilman, Francis E., M.A., 138 St. James St., Montreal ... 1865
Girard, Alfred C., Marieville ... 1882
Girouard, Desire, 56 St. Francois Xavier St., Montreal ... 1860
Glass, James M., 62 St. Francois Xavier St., Montreal ... 1877
‡Goldstein, Maxwell, Montreal ... 1876
‡Gordon, Asa, Aylmer, Q ... 1862
Gosselin, Jean, Quebec ... 1877
‡Goodhue, Henry S. W., Montreal ... 1877
Goyette, Henri A., Beauharnois, Q ... 1880
Grahame, Dugald, 1134 Dorchester St., Montreal ... 1888
‡Greenshields, James N., 102 St. Francois Xavier St., Montreal ... 1876
Greenshields, Robert A. E., B.A., Danville, Q ... 1885
Guertin, Alfred L., Montreal ... 1882
Grenier, Amedee L. W ... 1863
Guerin, Edmund W. P., B.A., Montreal ... 1881
Hackett, Michael F., Stanstead, Q ... 1874
Hague, Frederick, Montreal ... 1883
Hague, Henry J., B.A., Montreal ... 1885
Hall, John S., B.A., 131 St. James St., Montreal ... 1875
Hall, William A., 34 St. James St., Montreal ... 1863
Hammond, Henry R., Chatham ... 1880
Harnett, Wm. de Courcy, City Hall, Montreal ... 1870
Hart, Lewis A., M.A., 194 St. James St., Montreal ... 1869
Hemming, Edward J., Arthabaska ... 1855
‡ Hodge, David W. R., B.A., Sherbrooke, Q ... 1874
Holton, Edw.- 138 St. James St., Montreal 1865
Houghton, John G. K ... 1863
Howard, Rice M., Winnipeg ... 1869
Houliston, Alexander, Three Rivers, Q ... 1865
Hunter, Herbert S., Montreal ... 1880
Hunter, Walter, Hamilton, O ... 1883
*Huntingdon, Russ Wood ... 1875
Hutchins, Horace A., East Farnham ... 1883
‡Hutchinson, Matthew, Montreal ... 1873
Ingalls, Allen G., Granby, Q ... 1881
Jackson, Samuel W., Montreal ... 1881
Jenkins, George E ... 1874
Jodoin, Isaie, ... 1858
Johnson, Edwin R., Stanstead, Q ... 1866
Joliffe, William J., Montreal ... 1882
Jolly, James G., Rockburn, Q ... 1885
Jones, Richard A. A., B.A., Montreal ... 1864
Joseph, Joseph O., 33 t. Gabriel St., Montreal ... 1864
Kavanagh, H. J., 117 St. Francois Xavier St., Montreal ... 1878
Keller, Francis J., New York ... 1869
*Kelly, John P ... 1862
Kemp, Edson, B.A., 235 St. James St., Montreal ... 1859
Kenny, Wm. R., Aylmer, Q ... 1865
Kirby, James, M.A., Montreal ... 1867
Kittson, Geo. R. W., 60 St. James St., Montreal ... 1867
Klock, Robert A., Montreal ... 1882
Knapp, Frederick A., 17 St. John St., Montreal ... 1877
Labadie, M. T. Adolphe, Montreal ... 1874
Labadie, Y. A. Odilon, Montreal ... 1874
Lacoste, Arthur, Montreal ... 1869
Laflamme, R. G., Montreal ... 1856
Laflamme, Leopold, 42 St. James St. Montreal ... 1869
Lafleur, Eugene, B.A., Montreal ... 1880
*Lafrenaye, P. R ... 1856
Lambe, William B., 63 St. Gabriel St., Montreal ... 1850
Lanctot, Husmer, 3 Place d'Armes Hill, Montreal ... 1878
Lanctot, Mederic, 69 Upper St. Urbain St., Montreal ... 1860

Lane, C., B.A., Montreal 1881
Laplante, Jean Bte., St. Stanislas 1880
Lareau, Edmond (ad eun), Montreal 1874
Lariviere, Joseph 1874
Larose, Telesphore 1860
Lasalle, Lucien, 6 St. James St.,Montreal 1877
Laviolette, Pierre B., 16 St. Vincent St., Montreal 1878
Laurier, Wilfrid, Arthabaskaville, Q..... 1864
*Lay, Warren Amos 1867
Lawlor, Richard S., Aylmer, Q..... 1865
Leach, David S., Montreal 1861
*Leach, Robert A., M.A. 1860
Lebœuf, Louis C., 57 St. Gabriel St., Montreal 1873
Leblanc, Albert, 23 St. Denis St., Montreal 1879
Ledieu, Leon, 1 St. Pierre St., St. Henri, Montreal 1879
‡Lefebvre, Toussaint Z., Montreal 1882
Lefebvre, Frederic, 6 St. James St.,Montreal 1863
Lebourveau, Steadman A., Montreal 1876
Leet, Seth P., 163 St. James St., Montreal 1879
Leet, Lynn Tell, Montreal 1883
Lighthall, W. D., B.A., Montreal 1881
Lighthall, George R., Montreal 1882
Levy, J. C. E., 20 St. Louis St., Montreal 1878
Lonergan, James, 34 St. James St. Montreal 1873
Lonergan, Michael L. S., Montreal 1871
Loranger, Louis George 1863
Lyman, Albert, B.A., Montreal 1881
Lyman, Elisha Stiles 1865
Lyman, Frederick S., B.A., Montreal... 1869
‡Lynch, Wm. W., Quebec 1868
Mackenzie, Fred., Montreal 1861
Macpherson, Kenneth R., B.A., Montreal 1884
Madore, Camille, Notre Dame de Grace. 1880
‡Major, David, 61 St. Gabriel St., Montreal 1875
Major, Edw. Jas., 403 Guy St. Montreal. 1871
‡Marler, Wm. De M., B.A., 115 St. Francois Xavier St., Montreal 1872
‡Martin, John E., Stafford, Q..... 1883
Martineau, Paul G., 84 Champlain St., Montreal 1873
Matheson, Roderick D., Charlottetown, P.E.I 1884
McConnell, Arthur, Montreal 1883
McCord, David Ross, M.A., 131 St. James St., Montreal 1867
McCorkill, John C. G. S., Montreal..... 1877
McCormick, Duncan L., Montreal..... 1871
McDonald, Frank H..... 1873
McDonald, John S..... 1876
McDougall, John W. C., Three Rivers,Q 1877
McFee, Kutosoff N., B.A., Winnipeg... 1880
*McGee, Thomas d'Arcy 1861
McGibbon, R. D., B.A., Montreal..... 1879
McGoun, Archibald, B.A., Montreal.... 1878
*McIntosh, John, B.A. 1868
McKenzie, Peter, S. G., Melbourne, Q.. 1883
McKercher, John, Montreal 1880
McKinnon, Edmund 1878
McLaren, John J., Toronto 1868
McLaren, John Robert, M.A., 525 Sherbrooke St., Montreal 1859
*McLaurin, John Rice 1867
McLean, B. C., 19 St. Monique St., Montreal 1879
McLennan, William, Montreal 1880
McLennan, Francis, B.A., Montreal..... 1884
McLennan, Farquhar S., Montreal 1884
McMahon, Edward M., Montreal..... 1881
‡McMaster, Donald, Montreal..... 1871
*McNaughton, Peter J..... 1879
Merry, John Westley, Sherbrooke, Q..... 1870
Messier, Damase, 56 St.Gabriel St., Montreal 1875
Messier, Joseph S., St. John, Q..... 1868
‡Mignault, Pierre B., 36 St. Vincent St., Montreal 1878
Mitchell, Albert Ed., Sweetsburg, Q..... 1867
Molson, Alexander, 101 St. Francois Xavier St., Montreal. 1851
* Monk, Ed. Cornwallis..... 1870
Monk, Frederick D., Montreal 1877
Morgan, Edward A. D., Montreal..... 1882
Morin, Pierre A., Montreal..... 1878
Morris, Alexander, M.A., Toronto, O 1850
Morris, John L., 40 St. John St., Montreal 1859
Morrison, Adelard, Napierville, Q..... 1879
*Nagle, Sarsfield B..... 1862
‡Nicholls, Armine D., B.A., 48 Victoria St., Montreal..... 1879
Nichol, Thomas, M.D., LL.B., 140 Mansfield St., Montreal..... 1875
Nutting, Charles A., Montreal..... 1872
O'Halloran, George F., Cowansville, Q... 1885
Ouimet, Adolphe P., 332 Lagauchetiere St., Montreal..... 1861
‡Oughtred, Allan R., Sheridan, O..... 1881
Painchaud, Joseph, Montreal..... 1880
Palliser, Joseph, 17 St. John St.,Montreal 1877
Panet, Edouard A..... 1874
Papineau, Joseph G., 32 St. James St., Montreal..... 1869
Pariseault, Charles Ambroise 1859
Pelletier, Louis C., 446 Mignonne St., Montreal 1877
Perras, F. X., 4 St. James St., Montreal.. 1878
Perry, Joseph, New Orleans..... 1869
*Perkins, John A., M.A..... 1860
Perodeau, Narcisse, 5 St. Therese St., Montreal 1876
Piche, Aristide..... 1868
Pillet, J. Henri, Court House, Montreal ... 1879
*Phmsoll, Reginald J., M.A..... 1861
Polette, Wm. A., Montreal..... 1881
Poutre, Felix E., Montreal..... 1875
Power, Alexander W. A., Ottawa..... 1868
Prefontaine, Raymond, Montreal 1873
Purcell, John D., 146 St. James St, Montreal 1877
Rainville, Henri Benjamin, 43 St. Gabriel St., Montreal..... 1873
Ramsay, Robert A., M.A., Merchants' Exchange, 186 St. James St., Montreal..... 1866
Raynes, Charles, B.A., Montreal 1881
Reddy, Wm. B. S., Montreal..... 1880
*Redpath, Wm. W., B.A..... 1881
Ricard, Damase F. J 1859
Rielle, Norman T., B.A., Montreal..... 1884
Richard, Emery Ed., Battleford, N.W.T. 1867
Richard, Edward E..... 1868
Ritchie, Wm. F., B.A., Montreal..... 1879
Rixford, Em. Hawkins, San Francisco, Cal 1865

Robertson, David E., Lennoxville, Q..... 1883
Robidoux, J. Emery, Montreal..... 1866
Robillard, Emile..... 1874
Rochon, Charles A., 212 Notre Dame St., Montreal..... 1861
Rogers, John Henry, B.A., Montreal..... 1884
Rose, William, London, England..... 1866
Ross, Walter Lord, 11 Hospital St., Montreal..... 1879
Rutherford, Alex. C., Woodstock, O..... 1881
Rutherford, McC., Woodstock, O..... 1881
Sabourin, Ernest..... 1863
Santoire, Camille, Montreal..... 1863
Sarasin, Ferdinand Leon, 16 St. Vincent St., Montreal..... 1871
Scallon, Wm., Montreal..... 1876
Sexton, James Ponsonby, 59 St. Francois Xavier St., Montreal..... 1860
Sharp, W., Prescott..... 1880
Short, Robert, Richmond, Q..... 1867
Sjostrom, Paul R. D., Sherbrooke, Q.... 1881
Smith, Arthur W., B.A., Montreal..... 1885
Smith, Robert C., Montreal..... 1881
Shortiss, James, Three Rivers, Q..... 1881
Sicotte, V. B., Cadastre Office, Montreal. 1862
Snowdon, H. L., 67 St. Francois Xavier St., Montreal..... 1856
Spong, John J. R., Montreal..... 1874
St. Jean, Edmond R., Montreal..... 1879
Stephens, Charles Henry, Montreal..... 1875
Stephens, George W., Montreal..... 1863
Stephens, Romeo H., 56 St. Francois Xavier St., Montreal..... 1850
Stephens, Charles O..... 1864
‡Struthers, Irving E., Phillipsburg, Q.... 1885
Tache, Pascal, Montreal..... 1876
Tait, Melbourne, Montreal..... 1862
Taschereau, Arthur, Quebec..... 1864
Taylor, A. Dunbar, B.A., Montreal..... 1878
Taylor, Reid, Montreal..... 1869
Terrill, Joseph Lee, Stanstead, Q..... 1865
Torrance, Fred. W., M.A., Montreal 1856
‡Trenholme, Norman W., M.A., Montreal 1865
Trenholme, Edward H., M.D., Montreal. 1865
Trudel, Bouthillier J., 75 Dubord St., Montreal..... 1879
Tucker, Henry..... 1883
Vandal, Philippe, 58 St Francois Xavier St., Montreal..... 1861
Vilbon, Charles A., 44 St. James St., Montreal..... 1863
Walker, Wm. S., 112 St. Francois Xavier St., Montreal..... 1874
* Walsh, Thomas Joseph..... 1860
Watts, Wm., J., B.A., Drummondville,Q 1869
Weir, Robert S., Montreal..... 1880
Weir, Wm. A., Montreal..... 1881
Weir, Frank, Montreal..... 1882
*Welsh, Alfred..... 1864
White, Wm. J., Montreal..... 1882
Wicksteed, Richard J., M.A., Ottawa... 1868
Wight, James H..... 1868
Wood, Frank Ogilvie, Montreal..... 1870
Wotherspoon, Ivan T. (Laval), [ad eun] . Montreal..... 1868
Wright, Wm. Mackay, B.A., Hull..... 1863
Wurtele, Charles J. C., Sorel, P. Q..... 1863
Wurtele, Jonathan S. C., Montreal..... 1870

*Deceased. ‡ Elizabeth Torrance Medallists.

BACHELORS OF ARTS.

Allan, James G. († **E**), Brooklyn, N.Y... 1873
Allan, John (**N**), Leeds, Q..... 1874
Allen, Frank A., Huntingdon, Q..... 1880
Allworth, John..... 1871
Amaron, Calvin E. (**P**2), Three Rivers.Q 1877
Ami, Henry Mark, Geological Survey of Canada, Ottawa, O..... 1882
Anderson, Jacob de Witt, (†**C**)..... 1866
Anderson, James A., Montreal..... 1877
Archibald, John Sprott (†**P**), Montreal... 1867
Atwater, Albert W., Montreal..... 1877
Aylen, Peter, B.C.L., Aylmer, O..... 1850
Bancroft, Rev. Charles., junior., M.A., Knowlton, Q..... 1866
Barlow, Alfred E. (**N**), Montreal..... 1883
Barnston, Alexander, (†)..... 1857
Barron, Thomas J. Lachute, Q..... 1882
Bayne, George D., Morrisburg, O..... 1880
Baynes, Donald, London, Eng..... 1864
Beckett, William Henry..... 1866
Bennett, James, Montreal,..... 1880
Bethune, Meridith Blenkarne († **N**), Montreal..... 1866
Black, Chs., Granby, Q..... 1881
Black, James R..... 1874
Blackader, Alex. D. (**N**), Montreal..... 1870
Blackader, Edward H., Montreal..... 1864
Blakely, Malcolm D., Montreal..... 1878
Bland, Salem G. (Morrin), Montreal..... 1877
Bland, Charles E. († **C**), Montreal..... 1883
Bockus, Charles E..... 1852
*Bothwell, John A. († **N**), Montreal..... 1864
Boyd, John (**N**2)..... 1861
Bracq, John C. (**P**2), Grand Ligne, Q.... 1881
Brewster, Wm. (†**C**)..... 1865
Brooks, Charles H. († **N**), Smyrna..... 1868
Browne, Arthur Adderley (**E**), Montreal.. 1866
Brown, Thomas..... 1853
Browne, A. J. (†) Morrin,Windsor Mills, Q..... 1883
Budden, Hanbury A., Montreal..... 1885
Bull, Harcourt J. († **P**), Montreal..... 1880
Bullock, Wm. E. († **C**), Millbrook, O.... 1860
Calder, Geo. F., Stonefield, Q..... 1885
Cameron, James, M.A. (†**M**),Milbrook, O 1871
Cameron, John D., († **P**), Dewitville, Q. 1883
Cameron, Donald, Tiverton, O..... 1885
Cameron, Kenneth († **N**), Montreal..... 1884
Campbell, Henry (Morrin), Durham, Q.. 1885
Carmichael, James, Markham, O..... 1867
Cassels, Hamilton (Morrin), Millichamp's Building, Adelaide St. Toronto..... 1873
Cassels, Robert (Morrin) (**P**), Ottawa.... 1866
Chandler, George H. (†**M**) 32 Lorne av. Montreal..... 1875
Chipman, Clarence, Prescott, O..... 1866
Chubb, Sydney C. (**N**2), Brooklyn, N.Y.. 1877
Christie, John H., Lachute..... 1872
Christie, John H., Lachute..... 1884
Clark, Wallace, (†**E**)..... 1869
*Cline, John D. († **C**)..... 1871
Clowe, John D..... 1863
Cockfield, Henry, Montreal..... 1882
Colquhoun, A. H. Urquhart (†**E**),Montreal 1885

Cook, Archibald H. [Morrin), Quebec... 1869
Cornish, Rev. Geo., B.A , London University (ad eun), Montreal..... 1856
Cox, Jacob W., Noel, Hants Co., N.S... 1876
Craig, James A. (P 2), Fitzroy, O..... 1880
Craig, James, Renfrew, O 1874
Cross, Alexander S., († P), Montreal.... 1879
Crothers, W. J., (P2, Phillipsburg, Q.. . 1872
Crothers, Robt. A., († C), Bedford, Q.... 1876
Coussirat, Rev. Adrian D. (ad eun)Montreal..... 1871
Cunningham, Rev. Thomas E. (P 2), Aylmer 1880
Currie, Alex., Widder, O..... 1885
Currie Dougald (E), Crinan, O..... 1880
Currie, W. T., Toronto, O..... 1885
*Cushing, Lemuel, (C)... 1863
Darey, J. Herbert († C), Montreal..... 1880
Dart, William J., Laprairie..... 1868
Davidson, Charles Peers, Montreal.... 1863
Davidson, Rev. Jas. (ad eun), Montreal.. 1863
Davidson, Leonidas Heber, Montreal..... 1863
Dawson, William B., († N), Montreal.... 1874
Dawson, Rankine (P 2), Montreal 1878
Dewey, Finlay McN. (P 2), Richmond, Q 1874
Dey, William J. († N), Montreal..... 1871
DeWitt, Caleb S., Lockport, Ill., U.S.... 1861
Dickson, James C., Montreal..... 1883
Dixon, Wellington († E), Montreal 1883
Donald, James T. († N), Montreal 1878
Dougall, Duncan, Windsor, Ont..... 1860
Dougall, John Redpath, Montreal..... 1860
Drummond, Chas. G. B. (N), Montreal .. 1862
Duclos, Charles A.. (Morrin), Quebec.... 1881
Duff, Archibald, († M), Airedale College, Yorkshire, Eng..... 1864
Duffett, Henry J., Megantic, Q..... 1883
Duffey, Henry T. (E 2), Bedford,..... 1876
Duncan, Alexander E., Montreal 1867
Eadie, Robert († C), Oakland, O..... 1879
Elder, John († P), Huntingdon, Q..... 1881
Ells, Robert († N), Ottawa..... 1872
Empson, John, 71 University St., Montreal..... 1874
England, Luther M. (N), Knowlton, Q... 1883
Ewing, William, Winnipeg, Manitoba. .. 1878
Fairbairn, Thomas (P 2), ... 1863
Falconer, Alex. († E), Montreal..... 1881
Ferguson, James D. (Morrin), Quebec.... 1880
Ferguson, John A. (Morrin), Quebec. 1885
Ferguson, John S., Montreal..... 1861
Ferguson, Wm. A. († M), Richibucto, N.B..... 1881
*Ferrier, Robert W..... 1857
Fessenden, Elisha Jos., Chippawa, O.... 1863
Fleet, Charles J. (E), Montreal..... 1872
Forneret, Geo. A., Dunham Flats..... 1877
Fortin, Rev. Octave, (ad eun), Winnipeg, Man..... 1867
Fowler, William (N)..... 1865
Fowler, Elbert..... 1868
Fraser, John, (Morrin) 1869
Fraser, William, Dundee, Q..... 1883
Gamble, Robt., Billings Bridge, Ont..... 1881
Gerrie, Andrew W., Fergus, O..... 1884
Gibb, Charles, Montreal 1865
Gilman, Francis Edward, Montreal..... 1862
Gore, Frederick..... 1861
Gould, Charles H. († C), Montreal 1877
Gould, Edwin, Montreal 1856
Graham, John († E), Williamstown, O .. 1876
Graham, John H., Ormstown, Que..... 1878
Grandy, John, Milbrook, Ont..... 1866
Grant, Andrew S., La Guerre, Q.... 1885
Gray, William, Union Theological Sem., New York.... 1876
Greenshields, Edward († P), 305 Peel St., Montreal..... 1869
Greenshields, Samuel, Montreal..... 1874
Greenshields, Robert A., (†), Danville, Q..... 1883
Green, Joseph († C), 600 West 5th St., Cincinnati, Ohio, U.S..... 1861
Green, Lonsdale, 118 Leadenhall St., London, E. C., Eng..... 1864
Gregor, Leigh R. (P 2), Montreal..... 1882
Guerin, Edmund W.P., († E), 102 St. Francois Xavier St., Montreal..... 1878
Guignard, J. A., B.A., (Un. Fr.) ad eun, Ottawa..... 1883
Hague, Henry J. († C), Montreal..... 1882
Hall, John S., Montreal..... 1874
Hall, Rev. William, 30 Fort St., Montreal 1861
Hart, Lewis A., Montreal..... 1866
Harrington, Bernard J. († N), Montreal.. 1869
Harvey, Alfred, St. John's, Newfoundld.. 1874
Harvey, Charles J., St. John's, Newfld.... 1884
Haythorne, Thos., Charlottetown, P.E.I.. 1884
Hemming, Henry, (Morrin), Quebec..... 1880
*Hicks, Frank W..... 1864
Higgins, Joseph H., Brucefield, O..... 1005
Hindley, John, Montreal..... 1868
Hodge, D. W. R. († E), Sherbrooke, Q. 1872
Holiday, Caleb S., Lachute, Q..... 1870
Home, W. A. (Morrin), Quebec..... 1885
Howard, Robt., J. B. († N), Montreal.... 1879
Hunter, Walter, B.C.L., Hamilton, O.... 1883
Jones, Montgomery (E), Hatley, Q..... 1869
Johnston, Rev. Jas. A. († P), Rutland, Vermont. 1870
Joseph, Montefiore (N), Quebec..... 1870
Kahler, Frederick A. († C), Germantown, Phil., U.S..... 1869
Keays, Charles H., Hamilton, Ont..... 1880
Kelley, Frederick W. († E), Montreal.... 1871
Kemp, Edson, Montreal..... ... 1859
Kennedy, Geo. T. (N) 1868
Kennedy, Robt. Alex., Ottawa, O..... 1884
*Kershaw, Philip G..... 1867
Kinnear, George, Megantic, Q..... 1883
Kirkpatrick, Robert C., Montreal..... 1884
Kirby, James (†), Montreal 1859
Klock, Robert A., Aylmer, P.Q..... 1880
Krans, Edward H. († E), New York..... 1865
Lafleur, Eugene († P), Montreal..... 1877
Lafleur, Paul T. († E), Ottawa 1880
Lafleur, Henri A. († N), Montreal 1882
Laing, Robert († P), Halifax, N.S..... 1868
Lane, Campbell, 293 Peel St., Montreal.. 1879
Lariviere, Vitalien, Roxton Falls, Q..... 1880
Lariviere, Dolard, Roxton Falls, Q..... 1884
*Leach, Robert A..... 1857
Lee, Arch. (C), Pendleton, O..... 1883
*Lewis, Albert R. (E)..... 1869
Lighthall, William D. (†, E), Montreal... 1879
Lochhead, Wm. (N). Listowel, O..... 1885
Lyman, A. Clarence, Montreal..... 1878
Lyman, Henry H. († N), Montreal..... 1876
Lyman, Frederick Stiles, Montreal..... 1863
Lyman, Walter E. († L2), Montreal.... 1881
Mabon, James († P), St. Louis de Gonzague, Q..... 1884
Mackay, Adams A. († M), River John, Pictou Co., N.S..... 1884

Mackie, John F. (†), Morrin, Point Levi, Q 1883
Major, George W., 1398 St. Catherine St., Montreal 1870
Marceau, James 1884
Marler, Wm. de M. († M), Montreal 1868
Martin, Alfred W., Montreal 1882
Martin, J. C. (✠), Brown's Creek, P.E.I. 1885
Mason, James L 1859
Masse, Godefroi (†) Grand Ligne, Q 1884
Matheson, John, Presbyterian College, Montreal 1876
Mattice, Corydon J., Cornwall, O 1859
Maxwell, John (N), L'Orignal, O 1879
McClure, Wm. († M), Montreal 1879
McConnell, Richard G. (N), Montreal 1879
McCord, David Ross, Montreal 1863
McDonald, Hector C., Flat River, P.E.I. 1881
MacDonnell, Richard L. († C), Montreal. 1873
MacDuff, Alexander Ramsay 1866
McFarlane, James A. († P), Pontiac, Q.. 1885
MacKay, Daniel, Pictou, N.S. 1882
McFadyen, Allan L., Montreal 1878
McFee, Kutusoff N. († P), Winnipeg, Man. 1874
McGibbon, Robert D., Montreal 1877
McGoun, Archibald († P), Montreal 1876
McGregor, Archibald F., Listowell, O... 1877
McGregor, James (C), Montreal 1864
McGregor, Duncan, Guelph, O 1871
*McIntosh, John († M), ... 1870
McIntyre, Hector A., Manilla, O 1881
McKenzie, John, (Morrin) 1867
*McKenzie, Robert (P) 1869
McKenzie, Wm. A. (C), Lanark, O 1881
McKibbin, Wm. M., Edwardsburg, O... 1875
McKibbin, Robert, Edwardsburg, O 1879
McKillop, Roland, Inverness, Q 1878
McKillop, Peter C., Inverness, Q 1882
McLaren, David C., Montreal 1878
McLaren, John R., 525 Sherbrooke St., Montreal 1856
McLaren, Harry († 67 Mansfield St., Montreal 1858
McLean, Neil W. (Morrin), († 2) 1869
McLean, Bredalbane S., Montreal 1869
McLennan, Duncan H., Alexandria, G... 1871
McLennan, John S. (P), Montreal 1874
McLennan, H. S. († M L), Montreal 1885
McLennan, George A., Underwood, O.... 1885
McLeod, Arch., Orwell, P.E.I 1881
McLeod, Duncan C. († M), Charlottetown, P.E.I 1873
*McLeod, Hugh 1866
McLeod, Findlay J., Winnipeg, Man.... 1872
McLeod, Norman (Morrin), Brompton Gore, Q 1883
McNabb, Robt., Woodville, O 1881
*McOuat, Walter (✠) 1865
Macpherson, Kenneth R. († N), Montreal 1881
MacVicar, J. Harvey, Montreal 1885
Mercer, Walter D., Montreal 1880
Merritt, David, Prescott 1863
Molson, Charles A. († N), Montreal..... 1880
Moore, Francis X 1868
Morin, Joseph L. († M L), Three Rivers Mass, U.S 1882
Morris, William, Montreal 1859
Morris, Alexander, Toronto, O 1849
Morrison, John 1866
Morrison, Jas. D. († N), Ogdensburg, N.Y 1865
Morrison, David W. (E), Ormstown, Q.. 1870
Muir, Andrew C., Georgetown, Q 1880
Muir, John F 1864
*Muir, Rev. E. P. (ad eun) 1865
Munroe, Gustavus, Embro, O 1871
Munro, Murdoch, Williamstown, L'Orignal 1872
*Murray, Charles H. († N) 1873
Murray, J. Ralph († M), Montreal 1883
Naylor, W. H. († P), Clarendon, Q 1872
Newnham, Jarvois A., Montreal 1878
O'Halloran, G. F., Cowansville, Q 1883
Ogilvie, Archibald N., Georgetown, Q... 1880
Oliver, Theophilus H. (Morrin) († 2).... 1866
Parent, Manasseh B. (†), St. Pie, Q 1884
Parsons, Simeon H., B.A. (Univ. New-Brunswick) (ad eun), Montreal 1881
Pease, George H. († C), 120 Broadway, New York 1864
Pedley, Hugh, Cobourg, O 1875
Pedley, Charles S (P), Port Perry, O .. 1878
Pedley, James W., Cobourg, O 1884
Perrigo, James (N), Montreal 1866
* Perkins, John A 1858
Petit, Rev. Charles B 1850
Phillips, Charles W 1852
Pillsbury, Carroll E., Augusta, Me. U.S. 1880
*Plimsoll, Reginald J 1858
Porter, Jas. A. († N), Kemptville, O. ... 1883
Pritchard, John C. (Morrin), Quebec 1881
Ramsay, R., Anstruther, B. C. L. († N), Montreal 1862
Raynes, Charles, Montreal 1880
*Redpath, George D., Montreal 1857
*Redpath, William W 1879
Reddy, Herbert L. (E) 1873
Reid, James (P 2), North Mountain, O 1881
Rexford, Elson J. (P), Quebec 1876
Rielle, Norman T. (†), Montreal 1882
Richardson, A. W., Montreal 1883
Ritchie, Arthur F. (C), St. Paul, Minn .. 1873
Ritchie, Wm. F († C), 660 Sherbrooke St, Montreal 1875
*Roberts, George F. (P 2) 1880
Robertson, Alex († N), 1100 Dorchester St., Montreal 1870
Robertson, Geo., Garafraxa, O 1881
*Robertson, Robert (P) 1877
Robertson, Philip M., Montreal 1885
Robins, Sampson Paul († M), Montreal.. 1863
Rogers, George (N 2), Lakefield, Q 1884
Rogers, J. H. (†), Huntingdon, Q 1882
Rolph, Nathaniel (Morrin), Quebec 1885
Rondeau, Sam. (M L 2), St Elizabeth, Q.. 1884
Ross, George († C), Montreal 1862
Ross, James († P), Huntingdon, Q 1878
Ross, L. F., Montreal 1883
Ross, J. T., (†) (Morrin), Quebec 1883
Russell, Henry, (Morrin) 1869
Rutherford, Alex., B.C.L., Ormond, O... 1881
Scott, Henry C. (Morrin) (†), Montreal.. 1866
Scott, Matthew H. († N), Bristol, Q 1877
Scrimger, Alex. (†), Galt, O 1883
Scriver, Charles W., Hemmingford, Q... 1880
Shearer, W. K., Athelstan, O 1883
Sherrill, Alvan F. († N), Omaha, Nebraska, U.S 1864
Silver, Herbert J. (Morrin), Danville, Q.. 1885
Slack, George, Montreal 1868
Smith, Arthur, W. (N), Lachine, Q 1882
Stethem, George T 1859
Stevens, William H., St. Johns, Q 1879
Stevenson, Samuel C., Montreal 1874

Stevenson, Rev. J. F., B.A., London Univ. (ad eun), Montreal 1876
Stewart, Robert, Lachute, Q 1882
*Stewart, Colin Campbell (†N) 1867
Stewart, Wm. S. († C), Charlottetown, P.E.I 1878
Stewart, Wm. G. (†N), Arundel, Q 1885
Stirling, Robert, Montreal 1882
Stuart, Gustavus G. (†P), Quebec 1875
Sweeney, James F., Franklin, Q 1878
Tabb, Silas Everett (P), Sherbrooke, Q... 1869
Taylor, Archibald D. (C), Montreal..... 1874
Taylor, Edw. T., Peshawa, Bengal India 1878
Taylor, Ernest M., Stanstead, Q 1875
Thomas, Henry W. († E), Montreal..... 1874
Thomas, F. Wolferstan G., Montreal.... 1882
Thompson, G. T. A., Harbor Grace, Nfld 1885
Thornton, Rev. R. McA., Toronto (ad eun), London, England..... 1872
Thornton, Hastwell W. (N), New Richmond, Q..... 1878
Torrance, Edward F. (P 2), Peterboro, O 1871
Torrance, Frederick W., Brandon, Man.. 1878
Torrance, John Fraser, Montreal.... 1872
Trenholme, Norman Wm. (†P), Montreal 1868
Trenholme, Chas. W. (N), Montreal 1882
Tucker, Jno. W. († C), Montreal..... 1881
Tunstall, Simon J., (E), Montreal..... 1873
Tupper, James S. (C), Winnipeg, Man .. 1871
Turner, Walter H. († E), Montreal..... 1884
Walker, George F., Waddington, N.Y., U.S..... 1882
Wallace, Robt. W. (P), London, O 1872
Walters, Albert H. (Morrin), Quebec..... 1885
Ward, George B. († C)..... 1874
Warriner, Rev. William H. († E), Yorkville, O..... 1877
Watson, Murray, Montreal..... 1885
*Watson, Alindus J 1876
Watts, Wm. John (C), Drummondville, Q 1866
Weeks, Wm. A., Charlottetown, P.E.I.. 1881
Wellwood, James, Minnedosa, Man..... 1878
Whillans, George (P2), Ottawa..... 1872
Whillans, Robert, Ottawa 1872
White William, Montreal. 1881
White, Walker W., B.A., (Univ. New Brunswick) (ad eun)..... 1885
Wicksteed, Richard J. (C), Ottawa..... 1863
Wilson, John (P)..... 1866
Wood, Frank O., Montreal..... 1869
Wood, Thomas F., Montreal..... 1869
Wood, Holton H., 764 Sherbrooke St., Montreal..... 1879
Wotherspoon, Ivan T. (Morrin) (P), Montreal..... 1866
Wright, George C., Hull, Q..... 1884
Wright, Wm. McKay, Ottawa 1861
Unsworth, Joseph K. († E) Georgetown, Q 1884
Walker, John (Morrin), Quebec 1880
Walker, Thomas 1860

BACHELORS OF APPLIED SCIENCE.

In Civil and Mechanical Engineering.

Archibald, Hy. A., Montreal..... 1881
Batcheller, Alvan A., Bedford, Q..... 1875
Bell, Robt. (N), M.D., Geological Survey, Ottawa..... 1861
Boswell, St. George J., Assistant Engineer Harbor Improvements, Quebec.... 1874
Boulden, Chs. M., Millersburg, Ky., U.S. 1878
Brodie, Robert J., Smith's Falls, O..... 1873
Chipman, Willis (N), Brockville, O..... 1876
Collins, John J., Manotick, O..... 1882
Davis, Allan R., Adolphustown, O..... 1884
Dawson, Wm. B., B.A., Montreal..... 1875
Dowling, Donaldson Bogart (‡), Napanee, O..... 1883
Drummond, J., Manitoba..... 1882
Dudderidge, James, Lachute, Q..... 1880
Furlong, Gordon, Lachute, Q..... 1884
Fortier, Sam., Leeds, Q 1885
Foster, Philip L., Longueuil, Q..... 1882
*Frothingham, John J 1875
Graham, Wm., Montreal..... 1884
Green, Thomas D., Dominion Lands Office, Ottawa..... 1882
Harvey, Chas. J., B.A., St. John's, Newfoundland..... 1874
Hawley, David F., Aird, Q..... 1876
Hetherington, Frederick, Quebec..... 1876
Hall, Richard, Trenton, O..... 1878
Hill, Arthur E., Sidney, C.B 1875
Hislop, John L., C. P. Railway..... 1884
Jones, Thos. H., Bradford, O..... 1877
Kennedy, George T., M.A..... 1873
Lesage, T. W., Montreal..... 1885
McDonald, John, C. P. Ry..... 1884
McEvoy, Jas., Ottawa, O 1883
McKenzie, John M., Stellarton, Pictou, N.S 1884
McLeod, Clement H., Montreal..... 1873
McLean, Alex. J., Canada Pacific Ry.. . 1874
McMillan, David E., Montreal 1884
Miller, Frederick F. (†), Napanee, O..... 1882
Moffatt, Jas. W., Montreal..... 1884
O'Dwyer, John S. (‡), Dominion Lands Survey..... 1880
Ogilvy, David, C. P. Ry..... 1884
*Page, John..... 1875
Richard, Louis Napoleon, Ottawa 1881
Robertson, George S., Canada Pacific Ry 1874
Rogers, Richard B., Ashburnham, O.... 1877
Ross, George, Toronto, O..... 1875
Ross, Philip D., Mail Newspaper, Toronto 1878
Routhier, Jude J. T., Vankleek Hill, O.. 1885
Skaife, Wilfred T., Montreal 1880
Smith, Richard F., Montreal..... 1883
Smith, Cecil Brunswick (‡), Winona, O... 1884
Sproule, Wm. J., Harbor W'ks, Montreal 1877
Stewart, D.A., C.P. Ry., Red Rock, L.S. 1873
Swan, John, Windsor St., Montreal..... 1878
Thompson, Wm. T. (N), Cannington, O.. 1877
Thompson, Hedley Vicars (‡), Oxford, N.S 1885
Waddell, Robert Wm., Cobourg, O..... 1881
Waddell, J. A. L., C.E., of the Rensselaer Polytechnic Institute of Troy, N.Y. (ad eundem), Japan 1882
Walbank, Wm. McL., Union av., Montreal..... 1877
Wardrop, Norval, Brockville, O..... 1877
Wicksteed, Henry K., Ottawa..... 1873
Wilson, Robert A., Winnipeg, Man 1875

In Mining and Assaying.

Howard, Wm. H. (N), St. Andrews, Q.. 1883
Low, Albert P. (N), Ottawa, Q..... 1882
Macy, Ernest McC. (N), Melbourne, Q .. 1885
Mathewson, Ed. P. (N), Montreal..... 1885
Robert, Joseph A., Beauharnois, Q..... 1884
Robertson, William F. (N 2), Montreal... 1880
Rogers, Richard B., Ashburnham, O.... 1878
Spencer, Joseph Wm. (N), University of Missouri, U.S 1874
Torrance, John Fraser, B.A. (N)..... 1873
Trenholme, Chas. W. (‡ B.), Montreal. 1885
Wicksteed, Henry K..... 1874
Wilkins, Dan. F. H. (B.A., Tor.) (N), Mount Forrest, O..... 1875

In Practical Chemistry.

Adams, Frank (N), Geological Survey, Ottawa 1878
Burland, Jeffrey H. (N 2), Montreal 1882
Hamilton, Edward H., (N 2), Montreal..... 1884

GRADUATES IN CIVIL ENGINEERING.

Barnston, Alexander, B.A..... .. 1859
Crawford, Robert 1859
Doupe, Joseph, Winnipeg, Man..... 1861
Edwards, George..... 1863
Frost, Geo. H., Tribune Building, N.Y .. 1860
Gaviller, Maurice 1863
*Gooding, Oliver..... 1858
Gould, James H..... 1862
Kirby, Charles H., 58 Crescent St., Montreal 1860
McLennan, Christopher..... .. 1859
Reid, John Lestock, Prince Albert, Man. 1863
Rixford, Gulian Pickering..... 1864
Ross, Arthur..... 1860
*Savage, Joseph..... 1860
Walker, Thomas, B.A 1860

[C] First Rank Honours in Classics.
[E] do do do in English Literature, &c.
[M] do do do in Mathematics and Physics.
[N] do do do in Natural Science.
[P] do do do in Mental and Moral Philosophy.
[ML] do do do in Modern Languages.

[C2] Second Rank do.
[E2] do do
[M2] do do
[N2] do do
[P2] do do
[ML2] do do

† Indicates the Gold Medallist for the subject denoted by the letter to which it is prefixed: or, if standing alone, for best general standing. For the titles of the Gold Medals assigned to the several subjects since 1864, see § VI of Faculty of Arts.

In 1857, 1858, 1859, the Chapman Medal was awarded for the best general standing; 1860, 1861, 1862, for Classics; 1863 for Mental and Moral Philosophy; 1864 for Natural Science.

In 1862 the Prince of Wales Medal was awarded for Natural Science; 1863 for Mathematics and Physics; 1864 for Classics.

‡ Gov. General's Medal for highest general standing in Examinations for Bachelor of Applied Science; (‡ B) British Association Gold Medal.

* Deceased.

NOTE.—The Registrar of the University will be grateful for any corrections or additions to the address given in the above lists, and also for communication of titles which graduates may have acquired since their graduation.

Students of the University

SESSION 1884–85.

McGILL COLLEGE.

FACULTY OF LAW.

FIRST YEAR.

Beauregard, H. A.,	St. Hyacinthe, Q	Lemarche, J. B.,	St. Vincent de Paul, Q
Beaupartant, A. M.,	St. Hyacinthe Q	Mabon, J.	St. Louis de Gonzague, Q
Berard, L. P.,	St. Barthelemy, Q	McLean, J. A.,	Lancaster, O
Bourgeois, E.,	Three Rivers, Q	McCullough, D.,	Everton, O
Buie, H.,	Montreal, Q	Pickel, F. H.,	Sweetsburgh, Q
Fontaine, V. E.,	St. Hyacinthe, Q		

SECOND YEAR.

Brown, A. J.,	Quebec, Q	Mackie, J.,	Quebec, Q
Brien, L. A.,	St. Alexandre, Q	Murchison R. L.,	Dundee, Q
Elliott, R. J.,	Quio, Q	Monk, A.,	Montreal, Q
Lemire, H.,	L'Assomption, Q	Polette, L. T.,	Three Rivers, Q
Mackay, F. S.,	Papineauville, Q	Robillard, O.,	Montreal, Q

THIRD YEAR.

Claxton, A. G. B.,	Montreal, Q	Jolly, J. G.,	Rockburn, Q
Cameron, J. D.	Huntingdon, Q	O'Halloran, G. F.,	Cowansville, Q
Duffett, H. J.,	Megantic, Q	Smith, A. W.,	Montreal, Q
Greenshields, R. A. E.,	Danville, Q	Struthers, J. E.,	Phillipsburgh, Q
Hague, H. J.,	Montreal, Q		

FACULTY OF MEDICINE.

Aborn, Wm. H., Goderich, O.
† Allan, J. H. B., Montreal, Q.
Armitage, J. H., Newmarket, O.
† Arthur, Robert H., Brighton, O.
Aylen, James P., Aylmer, Q.
Aylen, Peter, Aylmer, Q.
Baer, D. C., Summerfield, Ill., U.S.
Baird, T. A. D., Chesterfield, O.
Bayne, C. W., Ottawa, O.
Beaudry, John S., Montreal, Q.
Bell, J. H., Kars, O.
Bennett, James, Cote des Neiges, Q.
Berry, Richard P., Lindsay, O.
Berry, James A., Seely's Bay, O.
Birkett, H. S., Hamilton, O.
Blackader, E. H. P., Montreal, Q.
Boggs, G. W., Wolfville, N. S.
Boone, S. W., Fredericton, N.B.
Bowen, Wm., Quebec.
Boyd, Jay, Vankleek Hill, O.
Bradley, Wm. J., B.A., Ottawa, O.
Brunette, J. T., Cornwall, O.
†Burrows, Fred. N., Drayton, O.
Cameron, Kenneth, Montreal, Q.
Cameron, J. J., Lancaster, O.
† Cameron, D. A., Strathroy, O.
Campbell, Archd. W., Montreal, Q.
Carter, Lucius H., Picton, O.
Cassidy, George A., Goldstone, O.
Castleman, L. A., East Williamsburg, O.

Cattanach, Walter, Glen Water, O.
Chalmers, W. W., Huntingdon, Q.
Christie, Wm., Lachute, Q.
Clarke, John L., Waterloo, Q.
Clouston, J. R., Leeds, O.
Conroy, C. P., Martintown, O.
†Carson, Douglas, Woodstock, O.
Cowie, Alex. MacA., Montreal, Q.
Coy, Wm. F., Kingston, O.
Craig, Murdoch A., Glen Water, O.
Crocket, W. C., B.A., Fredericton, N.B.
† Daly, Walter S., B.A., Ogdensburg, N.Y.
† Darey, J. Herbert, B.A., Montreal, Q.
Davis, Albert H., Glen Buell, O.
† Daze, Henry, Montreal, Q.
Deacon, John D., Pembroke, O.
DeCow, Douglass McG., Dresden, O.
Desmond, Francis J., Newcastle, N.B.
Dickson, James A., Montreal, Q.
Dickson, Horace W., Pembroke, O.
† Doherty, W. W., Kingston, N.B.
Duffett, John L., Leeds, Q.
Duclos, E. J. L., Montreal, Q.
Dyer, R. E., Montreal, Q.
Earl, Edgar H., Port Hope, O.
Easton, Charles L., Easton's Corners, O.
†Eberts, Duncan W., Chatham, O.
Edgar, Charles J., Napierville, Q.
† Elder, John, B.A., Huntingdon, Q.
Ellard, James, New Westminster, B.C.
Ellis, Wm. E., St. Catharines, O.
Evans, Edward J., Seaforth, O.
Evans, Wm. H., Montreal, Q.
Ferguson, James A., Vankleek Hill, O
Ferguson, W. D. T., Cumberland, O.
Fillmore, E. P., Baie Verte, N.B.
†Finley, Fred. G., Montreal, Q.
Flagg, J. D., Morrisburg, O.
Flett, Alfred J., Winnipeg, Man.
Fraser, J. M., Hawkesbury, O.
Fritz, H. D., St. John, N.B.
Gairdner, Thos. M., Bayfield, O.
Gardner, Alex. W., Cornwall, O.
Gibson, James B., Cowansville, Q.
Girdwood, G. W. T., Montreal, Q.
Gladman, Geo. J., Lindsay, O.
Goodwin, W. W., Baie Verte, N.B.
Graham, John, Carp, O.
Grant, Andrew S., Laguerre, Q.
Grant, G. C. J., Kingston, Jamaica.
Grant, J. H. Y., Ottawa, O.
Greene, Thos. J., Appleton, O.
Greer, J. E., Dublin, Ireland
Groves, Wesley, Carp, O.
Gunne, Neil, Ailsa Craig, O.
† Gustin, Smith, London, O.
Haentschell, C. W., Pembroke, O.
Hall, Andrew G., Franklin Centre, Q.
Hall, William, Walkerton, O.
†Hallett, Edmund O., Truro, N. S.
†Hamer, Albert L., Bradford, O.
Hamilton, Alex., Sutton, Q.
Hanna, A. E., Harlem, O.
† Harkin, Fred. M., Vankleek Hill, O.
† Hawkins, A. C., Halifax, N.S.
Haythorne, T. J., Charlottetown, P.E.I.
Hewitt, James, Quebec.
Hill, James Edgar, Montreal, Q.
Holden, E. DeF., St. Armand Centre.
Hoare, C. W., Strathroy, O.
Hopkins, H. J. J., Cookshire, Q.
Hubbard, O. H., Gilsam, N.H., U.S.
Hubert, P. T. H., Harbor Breton, Nfld.
Hughes, P. H., Strathroy, O.
†Hurdman, Henry T., Aylmer, Q.
†Irvine, R. T. Carp, O.
Irwin, W. T., Pembroke, O.
† Johnson, H. D., Charlottetown, P.E.I.
Johnson, J. W., Farmersville, O.
Kearney, F. L., Montreal, Q.
Kelly, J. A. A., Durham, O.
Kemp, H. D., Montreal.
Kennedy, James H., Lindsay, O.
Kennedy, Robert B., Cumming's Bridge, O.
Kendall, H. E., Sydney, C.B.
Kenney, F. L., St. John, Nfld.
Kerr, Norman, Holyrood, O.
Kincaid, Robert J., Fredericton, N.B.
Kincaid, R. M., Clarenceville, O.
Kinloch, John A., Montreal, Q.
Kirkpatrick, Robert C., Montreal, Q.
Kirkpatrick, E. A., Kentville, N. S.
†Klock, W. H., Aylmer, Q.
Lafferty, A. M., Perth, O.
Lafleur, H. A., B.A, Montreal, Q.
Lang, M. W., St. Mary's, O.
Lewis, G. T., Yarmouth, N. S.
Leslie, A. C., Morrisburg, O.
Long, C. H., Keswick Bridge, N.S.
Loucks, F., Stirling, O.
Mackay, Eugene, Ed., Papineauville, Q.
MacKay, Hector H., Plainfield, N.S.
McCollum, Ed. P., Duart, O.
Macdonald, Æneas J., Morrisburg, O.
McDiarmid, Geo. A., Dornoch, O.
McDonald, A. D., Wickham, N.B.
McDonald, Geo., Renfrew, O.
McDonald, D. D., North Lancaster, O.
McDonald, A. L., Glendonald, O.
† McDonald, H. J., Alexandria, O.
† McCormack, Norman, Pembroke, O.
McCarthy, J. G., Sorel, Q.
McGregor, J. G., Laguerre, Q.
† McGannon, M. C., Prescott, O.
McGannon, T. G., Prescott, O.
MacKinnon, G. W., Summerside, P. E. I.
MacKay, James M., River John, N. S.
† McArthur, J. A., Lobo, O.
† McKenzie, J. T., Plainfield, O.
McCuaig, Wm. J., Vankleek Hill, O.
McDougall, D. S., Marvelville, O.
McKinnon, Hugh, Alexandria, O.
McLennan, Donald, Dunvegan, O.
† McMillan, D. L., Alexandria, O.
McFarlane, M. A., Arnprior, O.
† McMeekin, J. W., St. Catharines, O.
McMillan, Gilbert A., Dundee Centre, Q.
McMartin, D. R., Martintown, O.
McCordee, Ed. J., Dundas, O.
Metcalfe, F. T., Buffalo, N.Y.
Mignault, A. A., St. Denis, Q.
Miller, J. J., Halifax, N.S.
Morrow, Calvin, Russell, O.
Moffat, R., Walkerton, O.
Morgan, V. H., Aultsville, O.
Mowatt, M. Mc., Williamstown, O.
Norman, Telfer J., Schomberg, O.
Orr, A. E., Cookshire, Q.
Orr, J. E., Mount Elgin, O.
Orton, T. H., Hamilton, O.
Osborne, A. B., Hamilton, O.
Owen, J. G., Fredericton, N.B.
† Palmer, Guy F., Ottawa, O.
Park, James, Newcastle, N.B.

Park, Pryse C., Durham, O.
Parker, N. D., Hawkesbury, O.
Patterson, C. J., Toronto, O.
Platt, Alfred T., Picton, O.
Pomeroy, L. E. Mc., Tweed, O.
Poole, Alfred, Wakefield, Q.
Porter, James A., B.A., Kemptville, O.
Potts, James, Belleville, O.
Pothier, J. C., Woonsocket, R.I.
† Powell, F. H., Ottawa, O.
Pringle, W. R., Cornwall, O.
Quance, Samuel H., Elfrida, O.
Quirk, Ed. L., Aylmer, Q.
Raymond, Alfred, Moulinette, Q.
Raymond, G. H., B.A., Springfield, N.B.
Richardson, Geo. C., South March, O.
Reavely, E., Port Robinson, O.
† Robertson, Archd. McD., Brockville, O.
Robertson, Francis D., B.A., Lennoxville, Q.
Robertson, A. G., Iroquois, O.
Ross, D. L., Winthrop, O.
Ross, L. F., Montreal, Q.
Rowat, W. McL., Manotick, O.
Scully, Daniel J., Lindsay, O.
Schmidt, A. F., Montreal, Q.
Schmidt, A. J., Faribault, Minn.
Seery, F. J., Fredericton, N.B.
† Sharp, J. C., Studholm, N.B.
Shepherd, R. A., Barbadoes, W. I.
† Shibley, John L., B.A., Yarker, O.
Stayner, L. R., Toronto, O.
Stephen, Geo. C., Montreal, Q.
Stewart, W. G., Arundel, Q.
Stewart, A. L., Arundel, Q.
Telfer, W. J., Burgoyne, O.
Thompson, J. H., Gananoque, O.
Trapnell, H. E., Harbor Grace, Nfld.
Turnbull, A. R., Russell, O.
Tupper, Freeman, Milton, N.S.
Vernier, H. C., Quebec, Q.
Warneford, Percy H., Norton, N.B.
Weagant, A. A., Hoasic, O.
Wetmore, F. H., Bloomfield, N.B.
Westley, R. A., Lancaster, O.
White, F. J., Green's Pond, Nfld.
White, Walter W., B.A., St. John, N.B.
Wilkins, H. P., Toronto, O.
Williams, E. P., Ottawa.
Williams, James F., Barrie, O.
† Willson, James A. K., Manotick, O.
Wilson, C. W., Cumberland, O.
† Wishart, D. J. G., B.A., Madoc, O.
† Wood, E. G., Londesboro, O.
Woodruff, Thos. N., St. Catharines, O.
Worthington, A. N., Sherbrooke, Q.
Wylde, Charles F., Halifax, N.S.
Young, A. A., Barton, Vt., U.S.
Young, H. E., Napanee, O.
Sinclair, Duncan, Guildes, O.
Springle, J. A., Montreal, Q.

† Passed Examination for M.D., C.M., 1885.

FACULTY OF ARTS.

Undergraduates in Arts.

First Year.

Browne, Alex. D., South Gloucester, O
Bryan, Andrew, Richmond, Q
Bryson, Alfred P., Montreal, Q
Day, John L., Montreal, Q
Duke, Wm. A., Carleton, St. John, N.B.
Edgar, Napierville, Q
England, George Prevost, Montreal, Q
Goff, Henry Neville, Georgetown, P.E.I.
Hall, Marshall K., Franklin Centre, Q
Howitt, William, Guelph, O
Jamieson, Walter L., Montreal, Q
Kinloch, George R., Montreal, Q
Lawrence, Pierre B., Athens, N.Y., U.S.
Le Rossignol, James E., Montreal, Q
Lindsay, Norman, New Richmond, Q
Lyman, George, Montreal, Q
Macallum, Fred. K. W., St. Elmo, O
McKenzie, Archd., Tiverton, O
Martin, Charles J., Montreal, Q
Mason, Horace E. C., Montreal, Q
Massé, Arthur, Grande Ligne, Q
McCusker, S. F., Hawkesbury, O
Morrison, John Archd., Ormstown, Q
Moss, Wm. Thos. Dygnam. Portage la Prairie, Man.
Naismith, Peter L., Pembroke, O
Pedley, Hilton, Cobourg, O
Pritchard, Thomas, Harriston, O
Stafford, E. Herbert, Montreal. Q
Stephens, George W., Montreal, Q
Thurlow, Harold M., Ormstown, Q

SECOND YEAR.

Bourne, Nicholas A. F.,	Montreal, Q	McLeod, Murdoch J.,	Valleyfield, P.E.I.
Brown, Samuel R.,	Huntingdon, Q	Murray, Alfred P.,	Montreal, Q
Cameron, Wellington A.,	Montreal, Q	Naismith, James,	Almonte, O
Clay, W. Leslie,	P.E.I.	Nichols, Wm. A.,	Montreal, Q
Colby, Chas. W.,	Stanstead, Q	Nicholson, John A.,	Eldon, P.E.I
Gerrie, John P.,	Fergus, O	Patton, Hugh M.,	Montreal, O
Henderson, Robt. B.,	Montreal, Q	Rochester, William N.,	Montreal, Q
Hill, Rowland S.,	Montreal, Q	Russell, Walter,	Bristol, Q
Holden, Rufus C.,	Montreal, Q	Sanders, William,	Montreal, Q
Internoscia, Antonio,	Montreal, Q	Solandt, Andrew P.,	Inverness, Q
Johnson, Alexander R.,	Montreal, Q	Sweeny, George R.,	Montreal, Q
Johnston, Robert,	Kincardine, O	Walsh, James,	Ormstown, Q
Kingston, Chas. B.,	Montreal, Q	Whyte, Charles W.,	Montreal, Q
McKenzie, Malc.,	Tiverton, O	Wright, Robert W.,	Montreal, Q
McLennan, Alex.,	Montreal, Q		

THIRD YEAR.

Bell, John H.,	Kars, O	McLean, John A.,	Lancaster, O
Blair, George A.,	Manotick, O	McOuat, John W.,	Inkerman, O
Braithwaite, Ed. E.,	Unionville, O	McRae, Duncan A.,	Applehill, O
Chalmers, William W.,	Huntingdon, Q	McWilliams, Andrew,	Ulster, O
Clerk, Ronzo H.,	Montreal, Q	O'Sullivan, R. Ben.,	Jamaica, W.I
Clements, Ben.,	Berthier en Haut, Q	Patterson, William,	Ormstown, Q
Dalpé, W. H.,	Roxton Pond, Q	Pedley, Francis,	Cobourg, O
Evans, W. Herbert,	Montreal, Q	Ritchie, Phillip E.,	Montreal, Q
Fyles, Wm. A.,	South Quebec, Q	Roberts, W. D.,	Montreal, Q
Hargrave, Isaac L.,	High Bluff, Man.	Sparling, William,	Stafford, O
Hibbard, Fred. W.,	Frelighsburgh, Q	Swabey, Charles,	Charlottetown, P.E.I
Holden, E. De F.,	St. Armand Centre, Q	Thomas, S. A. A.,	Boucherville, Q
Livingston, Colin H.,	St. John, N.B.	Topp, Francis,	Granby, Q
McCullough, O.,	Everton, O	Wallace William E.,	Montreal, Q
MacDougall, John,	Ormstown, Q	Yates, Nelson P.,	Frelighsburgh, Q
McKerchar, Colin,	Glengarry, O		

FOURTH YEAR.

Budden, Hanbury,	Montreal, Q	McFarlane, James A.,	Pontiac Co., Q
Calder, George F.,	Stonefield, Q	McLennan, Hugh S.,	Montreal, Q
Cameron, Donald,	Tiverton, O	McLennan, George A.,	Underwood, O
Colquhoun, Arthur,	Montreal, Q	Macvicar, J. Harvey,	Montreal, Q
Currie, Alexander,	Widder, O	Martin, J. C.,	Brown's Creek, P.E.I
Currie, W. T.,	Toronto, O	Robertson, Philip M.,	Montreal, Q
Grant, Andrew S.,	La Guerre, Q	Stewart, William G.,	Arundel, Q
Higgins, Joseph H.,	Brucefield, O	Thompson, G. J. A.,	Harbour Grace, Nfld
Lochhead, William,	Listowel, O	Watson, Murray,	Montreal, Q

Partial and Occasional.

Balfour, D.,	Omemee, O	Cooke, Joseph S.,	Montreal, Q
Bell, John W.	Creemore, O	Coté, J. E.,	St. Cesaire, Q
Berwick, George A.,	Farnham, Q	Davies, Howell,	Montreal, Q
Bowlby, Charles S.,	London, O	Eaglesen, J. S.,	Hazeldean, O
Brayley, James M.,	Montreal, Q	Forbes, John J.,	Drumblade, Scotland
Cayer, Paul N.,	Montreal, Q	Gerrie, A. W., B.A.,	Fergus, O

Glass, Lewis G., Montreal, Q
Graham, John, B.A., Ormstown, Q
Groulx, A. B., Belle Riviere, Q
Harris, Thos. S., Portage du Fort, Q
Harrison, Thos. E., Georgetown, O
Hart, John O., N. E. Margarn
Hastings, C. J.
Henderson, Andrew, L'Amable, Q
Holden, Donald B., Montreal, Q
Irvine, Henry, Montreal, Q
Jamieson, David M., Clapham, O
Jamieson, Wm. J , Clapham, O
Leith, Louis N., Rowell, Mass., U.S.
Locke, John, Bradford, O
Lockhart, Robt. E., Ormstown, Q
Lods, Albert J., Pointe aux Trembles, Q
Loiselle, H. O., Ste. Philomène, Q
McLeod, Alexander, Embro, O
McLeod, J. W.,
McLeod, Peter A., Forest Hill, P.E.I.
McAdie, James
MacDonald, Alexander, Mongenais, Q
McIlraith, J. S., Taltock, O
McCrae, D.
McKenzie, Murdoch, Montreal, Q
McLean, J. F., South Finch, Q
Meek, Henry A., Franklin Centre, Q
Milne, John J., Covey Hill, Q
Moore, Samuel, Mille Isles, Q
Mounteer, Hedley V., Wesleyville, O
O'Harro, William, Renfrew, O
Pedley, J. W., B.A., Coburg, O
Pitcher,
Ross, Cyril, Montreal, Q
Scott, Charles T., Toronto, O
Smith, Robert, Rawdon, Q
Somerville, William, Montreal, Q
Unsworth, J. K., B.A., Georgetown, Q
Warden, Wm. McC.
Watt, Wm. J., Dungannon, Ireland
Whyte, George, Montreal, Q
Winter, William S., Lewiston, Ill., U.S

SPECIAL COURSE FOR WOMEN.

Undergraduates.

FIRST YEAR.

Cross, Eliza C. Lachine, Q
Evans, Blanche B., Montreal, Q
Foster, Grace, Montreal, Q
McFee, Donalda, Montreal, Q
McLea, Rosalie McD., Montreal, Q
Murray, Alice, Montreal, Q
Reid, Helen R. Y., Montreal, Q
Ritchie, Octavia, Montreal, Q
Simpson, Mary C. Montreal, Q

Partial.

Blackader, Helen B., Montreal, Q
Jamieson, Helen L., Montreal, Q
Murphy, Martha, Montreal, Q
Turner, Edith, Montreal, Q
Van Horne, Addie, Montreal, Q

Occasional.

Bagg, Helen, Montreal, Q
Claxton, L. Louise, Montreal, Q
Edwards, Mary Grace, Montreal, Q
Jamieson, Nettie, Montreal, Q
Johnson, E. L., Montreal, Q
MacFarlan, Jessie J., Montreal, Q
Mercer, Edith A. M., Montreal, Q
Molson, L. S., Montreal, Q
O'Brien, M. E., Montreal, Q
Patterson, Jean, Windsor, O
Pennington, Florence, Montreal, Q
Rankin, Louisa M., Montreal, Q
Robinson, Josephine, Montreal, Q
Smith, Annie, Montreal, Q
Stevenson, Mildred S., Montreal, Q
Trenholme, Lucy H., Montreal, Q
Wurtele, Mrs., Montreal, Q

MORRIN COLLEGE, QUEBEC.

Undergraduates.

Campbell, Arthur J.,	Quebec	McLimont, Charles,	Quebec
Campbell, Henry,	Durham, Q	Miller, Alfred P.,	Quebec
Crawford, Archibald,	Quebec	Rivard, Edmund S.,	Montreal, Q
Donn, John,	Quebec	Robertson, Adam,	Edinburgh
Ferguson, John A.,	Quebec	Rolph, Nathaniel,	Quebec
Gillanders, Murdoch,	Applecross	Silver, Joseph H.,	Danville, Q
Home, William Arch.,	Quebec	Thomson, John,	Quebec
Langton, Joseph F.,	Montreal, Q	Thompson Frederick E.,	Quebec
Macdonald, John	Scotstown, Q	Walters, Albert Henry,	Quebec
Macdonald, Malcolm S.,	Scotstown, Q	Whitehead, Arthur W.,	Quebec
MacLennan, Malcolm,	Gould, Q	Williams, Herbert H.,	Quebec
Macleod, Angus,	Bernera, Harris		

ST. FRANCIS COLLEGE, RICHMOND, P.Q.

Undergraduates.

Bryan, George,	Quebec	Gamble, William,	Montreal, Q
Bryan, A.,	Quebec		

FACULTY OF APPLIED SCIENCE.

FIRST YEAR.

Childs, A. E.,	Montreal, Q	Lovelace, E. S. M.,	Longueuil, Q
Corsan, T.,	Woodstock, O	Macnutt, C. H.,	Ottawa, O
Eneas, A. G.,	Montreal, Q	McLennan, M. J.,	Williamstown, O
Flagg, J. L.,	Morrisburg, O	McTaggart, N. B.,	Montreal, Q
Gibbons, J.,	Renfrew, O	Ogilvy, R. F.,	Montreal, Q
Hamilton, W. J.,	Montreal, Q	Warnecke, C.,	Montreal, Q
Hogan, L. H.,	Montreal, Q		

SECOND YEAR.

Ball, J. P.,	Charlottetown, P. E. I	Moffatt, R.,	Walkerton, O
Carlyle, W. A.,	Woodstock, O	Palmer, R. E.,	Charlottetown, P. E. I
Carmichael, W. J.,	Montreal, Q	Rinfret, R.,	St. Stanislas de Batiscan, Q
Darey, L. A.,	Montreal, Q	Roy, A.,	Montreal, Q
Frrrier, W. F.,	Montreal, Q	Spencer, H. Y.,	Franklin Centre, Q
Forneret, V. F. W.,	Berthierville, Q	Taylor, D.,	Waterloo, O
Henderson, T. R.,	Montreal, Q	Walters, C. L.,	Montreal, Q
May, J. E.,	Ottawa, O		

THIRD YEAR.

Brown, C. P.,	Montreal, Q	Pitcher, S. H.,	Barbadoes, W. Indies
Cowie, F. W.,	Caledonia, O	Reid. W. M.,	Montreal, Q
Dawson, G. H.,	Quebec, Q	Trueman, H.,	Truemanville, N.S
Evans, N. N.,	Montreal, Q	Watson, T. W.,	Little Rideau, O
Kerry, J. G. G.,	Montreal, Q	Weir, A.,	Montreal, Q
M'Carthy, James,	Montreal, Q		

1884-85

FOURTH YEAR.

Fortier, S.,	Leeds, Q	Routhier, J.,	Vankleek Hill, O
LeSage, T. W.,	Montreal, Q	Saunders, B. J.,	Farmersville, O
Macy, E. McC.,	Melbourne, Q	Thompson, H. V.,	Oxford, N S
Mathewson, E. P.,	Montreal, Q	Trenholme, C. W.,	Montreal, Q

PARTIAL.

Adams, Capt. R. C.,	Montreal, Q	Hamilton, E. H.,	Montreal, Q
Amyrauld, A. H.,	Sweetsburgh, Q	Pacquette, L. C. E.,	Pointe Claire, Q
Bottoeley, A. F.,	Montreal, Q	Perkins, W. C.,	Vale Perkins, Q
Crossley, J.,	Montreal, Q	Rourke, J. W.,	Montreal, Q

SUMMARY.

tudents in Law, McGill College			30	
" in Medicine	"		234	
" in Arts	"	Undergraduates,	108	
		Partial and Occasional	54	
Special Course for Women—				
	Undergraduates		9	
	Partial		5	
	Occasional		17	
" in Applied Science,		Undergraduates,	47	
		Occasional,	8	
" in Arts, Morrin College,		Undergraduates,	23	
		Occasional,	12	
" " St. Francis College,		Undergraduates,	3	
		Partial and Occasional,	8	
Total number of Students			558	
Deduct entered in two Faculties,			6	
				552
Teachers-in-training in Normal Schools,			105	
Pupils in Model Schools			385	
Total Students and Pupils,				1042

Higher Examination of Women.

SENIOR ASSOCIATES IN ARTS.

1880.

GEORGINA HUNTER, MONTREAL.

1881.

MARGUERITA FRANCIS, MONTREAL.

1885.

AGNES E. LIVINGSTONE, ST. JOHN, N.B.

School Certificates of the University.

ASSOCIATES IN ARTS.

1865.

Montgomery Jones.
John Ferguson.
Charles Cushing.
Robert H. Conroy.
Samuel Stevenson.
Wallace Clarke.
Frederick W. Evans.
Robert W. Forrester.
Edward B. Greenshields.
Montgomerie Lewis.
George Joseph Bull.
Albert Murray.
Daniel McLachlin.

1866.

Sidney Arthur Fisher.
Charles E. Porteous.
Will. W. Walkem.
Chas. G. Stewart.
Geoffrey W. Porteous.
Florence David.
Hew D. Whitney.
George W. Torrance.
Robt. M. Esdaile.

1867.

Charles H. Ferry.
James Rodger.

1867.—*Continued.*

Geoffrey W. Porteous.
Thomas C. Thompson.
Francis J. Shepherd.
Gerald Lloyd.

1868.

John Fraser Torrance.
Will. Osborne M. Cross.
Henry G. W. Badgley.
John B. Abbott.
John Gray Grant.
Thomas C. Hempsted.

1869.

Arthur F. Ritchie.
Simon J. Tunstall.
Charles R. Jones.
O'Hara Baynes.
Aaron D. M. DeSola.
Charles Jas. Fleet.
John Thos. Caldwell.
James M. Mitchell.
John Kay.
James Green.

1870.

William Bell Dawson.

1870.—*Continued.*

Archibald D. Taylor.
Hiram B. Stephens.
Henry W. Thomas.
Samuel Greenshields.
Sheringham A. Shepherd.
William McEachran.
David S. Robertson.

1875.

William D. Lighthall.
W. A. Farwell.
Robert T. B. Howard.
Charles A. Molson.

1876.

J. Herbert Darey.
Paul Theodore Lafleur.
Edwin Hudson Bisset.
Andrew G. Ross.
James R. Foster.
Frederick Mindon Cole.
William Dawson McGregor.
John Ewart.
J. Gordon Gibson.
Wilfred T. Skaife.
Charles J. Walker.

1877.

Alexander Falconer.
Thomas B. Macaulay.
Armand F. Teefy.
Mina Douglas.
M. Stuart Fraser.
William Martin.
Walter H. Snow.
Louisa McFee.
Margaret A. Mills.
Ida Papineau.
Walter E. Lyman.
Helen Macklen.
Jane Darling.
George Graham.
Murray A. Biggar.
Jessie Ross.
Eva Dawson.
Alice Cumming.
Kenneth R. Macpherson.
Walter H. Lancey.
Robert A Wallace.
Alexander McGibbon.
Marietta Jones
Frank Weir.
Nathaniel D. Drew.

1878.

Henri A. Lafleur.
Grace Darling.
Henry R. Fairclough.
Andrew Lawson.
William H. Boyle.
N. J. Rielle.
George Kapelle.
John B. Rose.
Lillian Martin.
Henry Cockfield.
Louisa Harrison.
David Young.
Lawrence C. Rose.
Bessie Radford.
Kate McKeand.
Maggie Stewart.
Maggie Campbell.
A. W. Martin.
Florence W. Bissett.
C. W. Trenholme.
Robert Stirling.
Maggie White.
Frederick E. Belcher.
Anna Baxter.
Minnie Greenshields.
Emma D. Meikle.
C. D. Godfrey.
Lawrence MacRae.
Neil McLennan.

1879.

James Charles Allan.
Charles Edward Bland.
George W. Hambley.
John C. Fields.
R. Norman Hudspeth.
Louisa McDonald.
Wyatt G. Johnston.
Robert Little.
Henry J. H. Petry.
Edward J. K. Noyes.
Edith Durdan.
Adolph Craft.
Richard F. Morris.
William Morris.
Duncan D. McTaggart.
Archibald McK. McMechan.
Donald John Fraser.
John Coutts.
Thomas Crawford.
Jessie McConnell.
Devereux Emmet.
Alfred E. A. Barlow.
Elizabeth Smith.
Claude L. Wheeler.
Charles McP. Holt.

1879.—*Continued.*

Maggie Osgood.
George S. Baker.
Arthur G. Weld.
William L. Murray.
Christina J. Galt.
George R. Mills.
Alexander Malcomson.
Thomas J. Tait.
Kenneth D. Young.
Albert W. Haldimand.

1880

Edward H. P. Blackader.
William Logan.
Mary J. MacCallum.
Walter H. Turner.
Minnie H. McKean.
Mary B. Badenach.
Wm. C. Morrison.
Robert C. Kirkpatrick.
Julius T. Gnaedinger.
Richard S. Kinghorn.
Jean W. Johnston.
Norman R. Macaulay.
Hugh McLennan.
William Cherrie.
Eugene McMullan.
Elena C. Livingston.
William Christie.
James B. McNaughton.
Lyman Duff.
John D. Courtney.
Maud M. Lamb.
William Gibson.
James B. Gibson.
Frank Baker.

1881.

Frank P. Bernard.
Charles R. Daoust.
Frederick L. Barlow.
Percy E. Judge.
Peter C. Mitchell.
Alexander J. Tolmie.
William Mitchell.
Edward P. Mathewson.
Henry Munderloh.
Ellen E. Coo.
Wilfred R. Morris.
John J. Arnton.
Hanbury A. Budden.
Manson D. Teetzel.
William T. Gunn.
George H. Guy.
Charles Burkholder.
William M. Reid.
Philip M. Robertson.
Percival Tibbs.
William Reid.
Ellen F. Kemp.
Grace Foster.
Alice M. Cook.
James W. Morrice.
Ridley L. Charlton.
James H. Bissett.
Andrew Stuart.
Mary E. Clunie.
Archibald Robertson.
Arthur H. Irwin.

1882.

Albert G. B. Claxton.
Philip E. Ritchie.
Alexander R. Johnson.
John G. G. Kerry.
William S. Leslie.
Nevil N. Evans.
Charles P. Brown.
Walter F. Ferrier.
Thomas J. Vipond.
Charles J. Robertson.
William H. Evans.
John T. Crawford.
Robert S. Ross.
Ronzo H. Clerk.
Arthur Weir.
William A. Home.
Adelaide M. Bastable.
James R. Kinghorn.
Frederick H. Johnson.
Orrin Rexford.
Leslie G. Craig.
Marion Taylor
Flora Taylor.
William Hilton.
Cecil M. Maxwell.
Ernest Munro.
Brian H. Wand.
William A. Logie.
William A. Fyles.
Mary H. Ellicott.
Harriet A. Darey.
Mary J. Metcalfe.
Emily E. Gross.
William H. Bentley.
Ernest L. Allard.
Florence N. Wilson.
George H. Dawson.
James Laurie.
Elizabeth Christie.
Elizabeth Donnelly.
Alice M. Wilson.
Laura M. McLaren.

1882.—*Continued.*

Mary E. Meikle.
Christina Wilson.
James H Woods.
Phoebe E. Elliott.
Ida F. Smith.
Jane M. Bremner.

1883.

Meredith O. Smith.
Wellington A. Cameron.
Hugh M. Patton.
Annie C. McGregor.
Hubert D. Hamilton.
Henry W. Welch.
Rowland S. Hill.
Joseph C. Barlow.
Ellen M. Clunie.
Arthur D. Fry.
Albert H. Campbell.
Alexander T. Galt.
Albert E. Holt.
Alfred P. Murray.
Geo. A. Clunie.
Howard D. Kemp.
Samuel Cummings.
Wm. J. Carmichael.
Charles B. Kingston.
Helen B. Blackader.
Mabel Aldrich.
Charles L. Walters.
Robert B. Henderson.
Henry G. McLaren.
Wm. A. Nichols.
Edith Turner.
Alexander McLennan.
Geo. S. Cantlie.
Lawrence A. Darey.
Andrew B. Clark.
Peter Reid.
Neil B. McTaggart.
Mattie C. Murphy.
Alfred P. Bryson.
Graham B. Macpherson.
Ada A McGowan.
Thomas R. Henderson.
Robert M. Campbell.

1884.

Rosalie McD. McLea.
Octavia G. Ritchie.
John L. Day.
Charles R. Hamilton.
Henri G. Joly.
James E. LeRossignol.
Charles B. Gordon.
Charles J. F. Martin.
Helen R. Y. Reid.
Wm. C. G. Heneker.
Edward A. Robertson.
Mary E. E. Hunt.
Charles C. Smith.
Alice J. Murray.
Jessie W. Stewart.
F. H. Pickel.
George R. Kinloch.
Emily C. Forbes.
W. Archibald H. Kerr.
George Lyman.
Alexander M. Jeffrey.
Lillias S. Molson.
Hattie W. Bennett.
John Paterson.
Robert H. Reid.
Edmund H. Duval.
Walter L. Jamieson.
Reginald D. Dyer.

JUNIOR CERTIFICATES.

1875.

Charles F. Dawson.
William C. Norris.
William S. Kerry.
Frank D. Adams.

1876.

William R. Robertson.

1877.

Annie Cusack.
Lizzie Cox.
Ella Gardiner.
Elizabeth Monk.
Jessie Logan.
Alexander W. Richardson.

1878.

George Ross.
David McKinnon.
Jane Wood.
Annie Troup.
Jennie Edgar.
Edwin W. Griffin.
Mary Troup.
Herbert R. Macaulay.
Jessie Stewart.
Alexander Ambrose.

Milton Vandewater.
Mulie Somerville.
Jaggie Osgood.
Fritz G. Gnaedinger.
Robert A. Elliott.
Dora Scott.
Frederick F. Kingston.
William H. Adams.

1879.

Margaret McCoy.
Ida Sutherland.
Hattie Dally.
Grace Darling.
Margaret Wilson.
Augusta Pedersen.
George Corey Thomson.
Georgina Iles.
Mary Mitchell.
Arthur Mercer.

1880.

Jessie S. Greenshields.
William Graham.
Bertha Savage.
Ellie M. Cole.
David Ogilvie.
Jeannie Ross.
Lorrie Dickson.

1881.

Annie B. Barr.
Agnes H. Fairbairn.
John S. Cassils.
Martha Martin.
Mary C. Greer.
Jeannie Dickson.
Ernest Allard.
Nellie Hall.
Henry Allen.
J. W. H. Milne.

1882.

Cora Comfort.
William F. Graham.
Annie Munro.
Daniel Taylor.

1883.

John Coon.
Albert E. Botterell.
Annie Murphy.
E. Herbert Stafford.
Lucie E. Ives.

1884.

Francis H. Hadley.
Arthur L. Crawford.
Alexander F. Mitchell.
Frederick A. Stabb.
Minnie M. Howe.

STANDING IN THE EXAMINATIONS, 1885.

SENIOR ASSOCIATE IN ARTS.

Agnes E. Livingstone (St. John, N.B.), creditable answering in all the imperative subjects, and in French and Ancient History.

ASSOCIATES IN ARTS.

No.			
38.	George M. Edwards (High School, Montreal),	1092	Marks
42.	William Robertson (High School, Montreal),	1086	"
7.	Ada V. Alexander (Girls' High School, Montreal),	1013	"
36.	Walter Binmore (High School, Montreal),	962	"
32.	Frank S. Meighen (High School, Montreal),	932	"
2.	Harold B. D. Campbell (Bishop's College School, Lennoxville),	918	"
31.	David Grant (High School, Montreal),	912	"
26.	Maude E. Abbott (Misses Symmers and Smith's School, Montreal),	883	"
43.	John W. Ross (High School, Montreal),	882	"
34.	David D. J. White (High School, Montreal),	880	"
8.	Mabel N. Evans (Girls' High School, Montreal),	871	"
39.	Edgar A. Grafton (High School, Montreal),	819	"
23.	Elizabeth M. Cochrane (Misses Symmers and Smith's School Montreal),	817	"
10.	Caroline R. Marshall (Girls' High School, Montreal),	750	"
19.	Ellen M. H. Stevens (Hawkesbury High School),	745	"
28.	Kate M. Bott (Misses Symmers and Smith's School, Montreal),	735	"
45.	Alexander W. Waters (High School, Montreal),	731	"
37.	William M. Birks (High School, Montreal),	728	"
30.	Victor C. Buchanan (High School, Montreal),	726	"
20.	Minnie M. Howe (Charleston Academy, Hatley),	eq. 720	"
25.	Clara F. M. Davidson (Misses Symmers and Smith's School),		
5.	Walter D. Macfarlane (Bishop's College School, Lennoxville,	716	"
24.	Mary H. Henderson (Misses Symmers and Smith's School, Montreal,	683	"
21.	Maude S. Gibsone (Misses Symmers and Smith's School, Montreal),	675	"
29.	Robert H. Berwick (Cowansville Graded School),	667	"
22.	Janie T. Black (Misses Symmers and Smith's School, Montreal),	643	"
13.	Eleanor McD. Campbell (Private Tuition),	629	"
6.	John H. Dunlop (Bishop's College School, Lennoxville),	599	"
9.	Annie M. Kyle (Girl's High School, Montreal),	577	"

JUNIOR CERTIFICATES.

12.	Isabel M. M. Campbell (Private Tuition),	519	"

STANDING IN THE SEVERAL SUBJECTS.

[The numbers correspond with those in the preceding list. Candidates whose numbers are in parentheses are equal in standing.]

I. Preliminary.

Reading.—[At Montreal.—27, (8, 19, 31, 36, 39), (22, 24), (21, 23), (7, 9, 40), (25, 26, 35, 45), (10, 12, 28, 32, 38), (13, 30, 33, 34, 37, 42, 43, 44)]. [At Lennoxville.—5, (1, 2, 6), (3, 4)]. [At Hatley.—20)]. [At Cowansville.—29].

Dictation.—32, (2, 22, 31), (20, 42) (26, 38), 25, (5, 6, 19, 39), (12, 23), (1, 8, 9), (13, 36), 7, 37, (4, 10, 21, 24, 28, 29, 30, 33, 34, 40, 43, 45).

English Grammar.—2, 26, (1,20, 42), (24, 28, 39), 7, 6, 32, 35, (19, 21, 25), 40, 27, (3, 29, 45), 5, 13, (10, 23, 44), (9, 33), 22, 30, (4, 8, 31,) 12, (28, 37), 36, 43, 34.

Arithmetic.—2, 28, (23, 29), (19, 27, 36), (38, 42), 37, 32, 21, 34, (10, 43), (20, 25, 31), 44, 22, 8, (24, 33), (26, 35), 3, 39, 7, 30, 5, 6, 40, 13, 12, (9, 45), 4.

Geography.—32, 35, 31, 38, 25, (5, 39, 42,) (10, 28, 37), (7, 21, 26, 36), (8, 20), (3, 6), (23, 33), (12, 19, 30), (1, 13, 34, 43), (9, 24, 40, 45), (2, 4), (22, 29), 27, 44.

British and Canadian History.—(38, 42), 32, 31, 34, 35, 7, 26, 19, (10, 28, 37, 43), 30, (1, 5, 39), (21, 36), (3, 20, 24, 45), 8, (9, 12, 13, 23), 4, (6, 27, 29), (2, 22).

Gospels.—[Creditable Answering].—1, 2, 3, 6, 7, 8, 9, 10, 12, 13, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 33, 35, 36, 37, 38, 42, 43.

II. Optional.

[The asterisks indicate creditable answering].

Latin.—20*, 23, 31, 2, 26, 19, 9, 32, 24, 22, 1, 29, 34, 13, 30, 6, 39, 33, (21, 25).

Greek.—31*, 32*, 34, 33.

French.—23*, 26*, 38*, 25*, 1*, 31*, 42 *, 9, 7, (10, 39), 24, (6, 27), 21, 5, (22, 28), 36, 20, (29, 45), (33, 43), 2, 3, 32, 13, 35, 34, 37, 30.

German.—7*, 27*, 36*, 12*, 42*, 38*, 8*, 45, 28, 43, 35, 37, 40, 44.

Geometry.—2*, 36*, 42*, 38*, 34*, 10*, 20*, (35*, 43*), 19*, 7*, (27*, 29*, 30*), 39, 26, 31, (37, 44), (8, 45), 13, 5, (32, 33), 4, 3, 23, 28, (24, 25, 40).

Algebra.—2*, 27*, 25*, 42*, 19*, (8*, 23*), 34*, 29*, (26*, 38*), (10*, 20*, 28*), 21*, (22*, 36*), (7*, 43*), 6* 39*, 24, (30, 45), 5, 33, 32, (12, 13), 37, 3, 9, 35, 40, (31, 44), 1.

Trigonometry.—2*, 38*, 42*, 35, 39, (8, 43), 7, 36, 10, 32, 45, 34.

Natural Philosophy.—19.

Drawing.—5, 19, 38, (40, 42), 36, (39, 43).

English Language.—7, 8, 9.

English Literature.—7*, 42*, 38*, (28*, 31*), (32*, 35*), (13*, 23*, 34*) 26*, (43*, 45*), 22*, 39*, 12*, (9*, 36*), 37*, (8, 30), (21, 27), (3, 33), 10, (1, 5), 24, (25, 44), 4, 40, (2 29), 6.

History.—26*, (31*, 42*), 38*, 32*, 7*, 34*, 30*, 43*, (36, 39), (10, 21), 23, 27, 35, 28, 1, 12, 5, 4, 37, 24, 25, 3, 9, (6, 22), (20, 33), 45, 13, 19.

Geography.—5*, 35* 42*, 38*, 2*, 6*, 37*, 4*, (3*, 43*), (1, 32), 31, 39. (19, 34), (29, 40), 30, 33.

Botany.—8*, 38*, 7*, 26* , 21*, 35* , 42* , (24* , 25*), 20, 22, 27, 23, (13, 36), 37, (28, 40), 39, 10, (12, 43, 45).

Chemistry.—36*, 35*, 38*, 8*, 42, 39, 43, 19, 40, 45.

DONATIONS

TO THE

LIBRARY AND MUSEUM OF McGILL COLLEGE,

FROM JUNE, 1884, TO JUNE 24TH, 1885.

DONATIONS TO THE LIBRARY.

DONORS.	TITLES,
Malcolm Guthrie, Esq., Liverpool	On Mr. H. Spencer's Data of Ethics.
British Ass'n Adv't of Science, London	Report of Meeting at Southport, London, 1884.
Alexander Campbell, Ottawa	Volume II. of cases decided by the B. N. A. Act of 1867. Toronto, 1883.
Society of Civil Engineers, London	Minutes of Proceedings of the Institute of Civil Engineers, vol. LXXV.
Do do do	Applications of Electricity. London, 1884.
Principal Cato, Tokio, Japan	Memoir of the Science Department.
Graduates Society, Montreal	Dumont— Theory of Legislation, by Jeremy Bentham.
Hon. Robert Mackay, Montreal	Four volumes Legal Newspaper Scraps, bound in folios and indexed. Apologie ou Defense de Guillaume de Nassau. Sermons by Edwin, Archbishop of York, 1585. A View of Religion, by Sir E. Sandys, 1629. Pictoral Life of St. Ignatius Loyola, 1622. Johannes Tauernerns de Purgatorio, 1551. John Bh. Rochester, Assertiorum Regis Anglia, 1652. Otho Venis, Horace Emblemata, 1683. Martirum Triumphans, 1759. John Gillis, Aristotle's Ethics, 2 vols. Simonde de Sismondi, Constitutions des Peuples Libres, 1836, Sale, the Koran, 1795, 2 vols. Anecdotes of William Pitt, Earl of Chatham, 1797, 3 vols. John Selden, Fleta, 1647. Twiss, the Law of Nations, 2 vols. Levi, the Law of Nature and Nations. Bray's Papal Usurpations, 1712. The Family Classical Library, 52 vols. Memoirs of the Duke of Sully, 1761. Grotius, Opera Omnia Theologic, 1679, 4 vols. Moreri, Le Grand Dictionnaire Historique, 8 vols. Patrick's Commentary, 3 vols. Lowth's Commentary. Arnold's Commentary. Whitby's Commentary, 2 vols. Lady Packington, Whole Duty of Man.
Total 100 volumes.	
Senatus Academicus, Edinburgh	The Edinburgh University Calendar for 1884-5.
Charles Barrois, France	Recherche sur les Terrains Anciens, 1882, 2 vols.
John T. Betts, Kent	Juan de Valde's Works, 1882, 4 vols.
John Harris, London	Some Propositions in Geometry, 1884.
Lords Commissioners H. M. Treasury, London	The Scientific Reports of the Voyage of H. M. S. Challenger, 1882, etc., 10 vols.
Col. W. A. Ross, London	Pyrology or Fire Chemistry, The Blow Pipe in Chemistry, Blow Pipe Analysis.
Institute Civil Engineers, London	Minutes of Proceedings, Vols. LXXVI.-VII.
Society of Engineers, London	Transactions of, for the year 1883.
McGill Graduates' Society	The Works of DeQuincy, 13 vols. Ogilvie, Imperial Dictionary, 4 vols. Bentham, Theory of Legislation. Œuvres de Alfred de Musset.

Astronomer Royal, Greenwich	Astronomical Observations for 1882.
United States Government	Annual Report Chief of Engineers for 1883, 3 vols.
	Maguire, Professional Notes, 1884.
	Electricity, Paris Exhibition, 1884.
	Fish and Fisheries Reports for 1880-81, 3 vols.
Royal Colonial Institute	Proceedings of Vol. XV. for 1883-84.
J. F. Latrobe Bateman, London	Manchester Water Works, History of, 1884.
R. N. Cust, London	Modern African Languages, 1883, 2 vols.
General Sir J. H. Lefroy, London	Magnetic Survey of the Dominion of Canada, 1883.
	Magnetic Observations at Lake Arthabaska.
Rev. J. F. Blake, London	Nine Zoological and Geological Pamphlets.
Earl of Rosse, Ireland	Five Astronomical Pamphlets.
H. M. Secretary of State for India	General Census for all India, 1883, 3 vols.
Trelawny Saunders, London	Survey of Western Palestine, 2 vols.
H. B. Brady, F.R.S, London	Voyage of the "Challenger," "Zoology," vols. IX. 1 text, 1 plate, London, 1884, 2 vols.
A. H. Jackson, Manchester	Lithographic Signatures, B.A.A.S., Cambridge, 1883.
J. W. Appleton, Liverpool	Genius, What is it?
Trustees British Museum	Report of Zoological Collection H.M.S. "Alert"
	Catalogue of Early English Books to 1640, 3 vols.
	Catalogue of Greek Coins.
Smithsonian Institution	Annual Report for 1882.
Peter Redpath, Esq	Chronicles and Memorials, 9 vols.
	Cruise of the "Challenger," 2 vols.
	Henderson's History of Scotland, 3 vols.
	Faber's Pagan History, 3 vols.
	Freeman's Historical Works, 14 vols.
	Gardner's History of England, 10 vols.
	Green's Historical Works, 6 vols.
	Herstlet's Maps of Europe, 3 vols.
	May's Constitutional History, 3 vols.
	Stubb's Constitutional History, 3 vols.
	Blaaw's Baron's War.
	Index Society's Publications, 12 vols.
	Ranke's History of England, 6 vols.
	Gordon's Ecclesiastical History of Scotland, 4 vols.
	Arber's Stationers' Register, 4 vols.
	Skene's History of Scotland, 3 vols.
	Other Historical Works retained in binders' hands for samples, 11 vols.
Total donation, 97 volumes.	
James Bain, jun., Toronto	Catalogue of Public Library.
Royal Society, London	Philosophical Transactions.
	Proceedings of the Society for 1884.
McGill College Book Club	Arnold, Roman Administrations.
	Alcock, Art in Japan.
	Adams, Women of Fashion, 2 vols.
	Barry, Fifty Years Colonial Experience.
	Burton, Reign of Queen Anne, 3 vols.
	Baker, Cyprus as I saw it in 1879.
	Blackburn, Breton Folk.
	Benham, Catherine and Crawford Tait.
	Burton, Inner Life in Syria.
	Brandes, Lord Beaconsfield, a Study.
	Bird, A Lady's Life in the Rocky Mountains.
	Bailey, England from a Back Window.
	Crozier, The Religion of the Future.
	Carr, Essays on Art.
	Cowile, A Ride in Petticoats and Slippers.
	Cox, A Search for Winter Sunbeams.
	Clarke, Biographical Sketches.
	Cowan, Recollection of Writers.
	Colcomb, Defence of Greater Britain.
	Caird, Philosophy of Religion.
	Dixon, Royal Windsor, 2 vols.
	Davis, The Rise and Fall of the Confederate Government, 2 vols.
	Dowden, Shakespeare's Mind and Art.

Duffy, Young Ireland.
Dutt, India Past and Present.
De Pressense, Contemporary Portraits.
De Remusat, Memoirs of Mad. Remusat.
Doyle, Lectures on Poetry.
Forbes, British Burma.
Fytche, Burma, Past and Present, 2 vols.
Frowde, Two Lectures on South Africa.
Fairholt, Rambles of an Artist.
Gillmore, Travel, War and Shipwreck.
Gosse, Cecil Lawson.
Geikie, The English Reformation.
George, Progress and Poverty.
Hosmer, History of German Literature.
Haviland, The Heart of Holland.
Hingston, The Australian Abroad.
Hamerton, Modern Frenchmen.
Hooper, Morocco and the Great Atlas.
Holiday, Rambles.
Janvier, Practical Keramics.
Kemp, Pencil and Palette.
Kemble, Records of a Girlhood.
Loftie, A Ride in Egypt.
Lindhein, Roman Days.
Lang, Cyprus.
Metcalf, The Englishman.
Merricourt, Famous French Authors.
Murphy, Sporting Adventures.
Murray, Round about France.
Musquoid, Legends from Normandy.
Metternich, Memoirs of Prince, 4 vols.
MGill College Book Club — Nordenskiold's Arctic Voyages.
Oppert, A Forbidden Land.
Ober, Camps in the Caribees.
Pollock, Lectures on French Poets;
Patterson, Renaissance in France, 2 vols.
Poynter, Ten Lectures on Art.
Parton, Life of Voltaire, 2 vols.
Proctor, Pleasant Ways in Science.
Pritchard, Friends and Foes.
Poor, Sankritt.
Parr, Kafir and Zulu Wars.
Prime, Alhambra and Kremlin.
Renan, Hibbert Lectures, 1880.
Symond's, Renaissance in Italy.
Symonds, Sketches in Italy.
Senior, Travel and Trout.
Shepherd, British School of Painting.
Schaff, Through Bible Lands.
Sullivan, New Ireland.
Smith, Life ai Gladstone, 2 vols.
Brazil, Studies in Religion, Carthage.
Short, Antique America.
Sale, Paris Herself Again, 2 vols.
Taylor, The Story of my Life, German Literature.
Teaed, Morocco.
Trevelyan, Peshawer, Russians of To-day.
Vandan, Amours of Great Men.
Wicksteed, Dante.
Westropp, Handbook of Pottery.
Westminster, Tour in Norway.
Whyte-Melville, Riding Recollections.
Waring, Tyrol and the Alps.
Young, The Ceramic Art.

Dr. T. Sterry Hunt — Lesquereux, The Mosses of North America.
U. S. Secretary of War — Annual Reports for 1871-76, 11 vols.
Sir Wm. Dawson, principal — Proceedings A.A.A.A., Minneapolis.
Barnard American Journal of Education, 17 vols.
Rev. H. H. Evans, England — St. Paul the Author of the Acts of the Apostles.
Prof. Bovey, Montreal — Memorials of A. L. Holley.

R. Forsyth, Montreal	Fifty volumes Engineering Works.
Sir William Dawson, Montreal	Asa Gray, Synoptical Flora.
Dr. T. Sterry Hunt, Montreal	Two hundred and one (201) vols.
U. S. Government, Washington	Coast Survey for 1882.
Grand Total donation, 662 volumes.	
Trustees of the British Museum	Additional Casts of Triassic Fossils.
W. S. M. Durbain, Esq., Exeter, England	Specimens of Palæolithic Implements.
F. H. Thomas, Esq. Cardiff, England	Two Casts of Footprints.
R. S. Bell, Esq., London, England	British Palæosoic and Eocene Fossils.
Free Museum, Liverpool, England	Skeleton of Gorilla.
Dr. W. B. Carpenter, F.R.S., London, Eng	Specimens of Orbitolites.
T. E. H. Peyton, Esq., F.R.S	Wealden Fossils from England.
J. R. Byron, Esq., Manchester, Eng	Specimen of Fossil Nelumbium.
Geological Survey of Canada	Specimens of Minerals.
George Taunne, Esq., Londonderry, N.S.	Specimens Iron Ore, Nova Scotia.
W. Drysdale, Esq	Specimen of Clupea alta, Utah.
Lieut.-Col. Grant, Hamilton	Specimen of Silurian Fossils.
W. H. Blaiklock, Esq	Specimen of Lamprey from Cedar Rapids.
Charles Gibb, Esq., Abbottsford	Specimens of Canadian Woods, illustrating diseases of Plants.
Henry Brooks, Boston	Section of Woods.
Hon. R. Mackay	Ottley, Modern Egypt a witness to Christ. Vizetelly, Berlin under the New Empire, 2 vols.
R. A. Ramsay,	The Tercentenary Festival of the University of Edinburgh, by R. S. Marsden.
H. Beaugrand	Le Vieux Montreal, 1611-1803.
Government Marine and Fisheries Department	Twenty-six Pamphlets.
Royal Institute of British Architects	Transactions of the Society for 1883-4.
Norwegian Government, Christiania	Astoroidea, by Danielssen.
Wm. Ford Stanley, London	Researches into the Properties of Fluids.
Sir Wm. Dawson	Phillip's Manual of Geology, revised by Seeley and Etheridge. Mammatt Geological Facts, Ashby Coal Fields.
B. Smith Lyman, Southampton	Geological Survey of Japan, 1878-8-9, with 14 maps. Topography of the Punjal Oil Regions.
Institute Civil Engineers, London	Minutes of Proceedings, Vol. LXXVIII., Part IV. of 1883-84.
American Institute Mining Engineers, N. York	Transactions of the Institute, Vol. XII. for 1884
W. A. Ingram, Philadelphia	Forty-four (44) volumes of the Second Geological Survey of Pennsylvania and Maps.
M. Biland, Montreal	Opuscules Divers, MSS., Montreal, 1869.
The Harbor Commissioners, Montreal	Official Documents relating to the Improvement of the Ship Channel between Montreal and Quebec, 1884.
Charles Glackmeyer, sen., Montreal	Annual City Reports, for the year 1883.
Sir Wm. Dawson	Reports of the Geological Survey of Ohio, Columbus, 1884.
Hon. D. A. Smith and W. C. McDonald	Two hundred and fourteen (214) volumes, comprising the Shakesperean library of the late T. D. King.
McGill College Book Club	Sixty-seven volumes General Literature, as follows: Armory, John Singleton Copley. Arnold E., Poems. Blades, Wm. Caxton Bird, Unbeaten Tracts in Japan, 2 vols. Brassey, The British Navy, 2 vols. Burke, Business and Pleasure in Brazil. Carpenter (P. P.), Memoirs of. Calderwood, Science and Religion. Dorman, The Origin of Primitive Superstitions. Fitzgerald, A New History of the English Stage, 2 vols. Freeman, The Reign of William Rufus, 2 vols. Graham, The Creed of Science. Gardiner, The Fall of Charles I., 2 vols. Gurney, The Power of Sound. Gibbs, Goethe's Mother. Hall, David Cox. Hardcastle, Llife of Lord John Campbell, 2 vols.

McGill College Book Club.....

Hammerton, Life of J. W. M. Turner.
Jowett, Thucydides, Vol. I.
Jennings, An Anecdotal History of the British Parliament.
Kinnear, Principles of Property in Land.
Kemble, Past Hours, 2 vols.
Leathes, An Actor Abroad.
Miles, History of Canada.
Mitchell, The Past in the Present.
Marvin, Merv.
Morley, Life of Richard Cobden.
Moseley, Notes by a Naturalist on the Challenger.
McCarthy, History of our Own Time, 2 vols.
Ode to Life.
Pallam, Prince Tallyrand and King Louis XVIII.
Pierpont, Fifth Avenue to Alaska.
Redford, The Christian's Plea against Unbelief.
Reed, Japan, 2 vols.
Redcliffe, The Eastern Question.
Shore, The Flight of the Lapwing.
Summer, Our Holiday in the East.
Stanley, Memoirs of E. and C. Stanley.
Shadwell, Life of Lord Clyde, 2 vols.
Symonds, Renaissance in Italy, 2 vols.
Stilman, The Horse in Motion.
Smith, John Bright.
Sensies, Jean Francois Willet.
Stone, Cradle Lands of Arts and Creeds.
Stevenson, Our Home in Cyprus.
Stevenson, Our Inland Voyage.
Stainer, Dolci Napsoli.
Seaton, St. Kilda.
Ticknor, Life, Letters and Journals of ——, 2 vols.
Transactions of the Social Science Association.
Vonsybet, the French Revolution, 2 vols.
Watson, Visit to Wazan.
Whitney, Language and its Study.
Yriarte, Florence.

Catalogue of the Shakespearean library of the late Mr. Thomas D. King presented to the library of McGill College by the Hon. Donald A. Smith and W. C. MacDonald.....

Bell's, Variorum edition, London, 1788, 20 volss
Cowden Clarke, C. and M., Cassell's ed., 4 vol.
Collies, J. Payne, Shakespeare's works, Reafield, 1855, 1 vol.
Dyce, Rev. Alexander, Shakespeare's works, London, 1875, 3 vols.
Furness, Horace Howard, Shakespeare's works, a new variorum edition, Philadelphia, 1873-80.
Romeo and Juliet, Macbeth, Hamlet and King Lear, 5 vols.
Hudson, Rev. H. W., do, Boston, 1872, 11 vols.
Johnson, Dr. Samuel, do, London, 1765, 8 vols.
Johnson & Stevenson, do, London, 1773, 10 vols.
Do, London, 1803-1807, 8 vols.
Phelps, Samuel, do., London, 2 vols.
Staunton, do, London, 1858, 3 vols.
Staunton, do, edition de luxe, London, 1881, 15 vols.
Steevens, George, do, London, 1803, 10 vols.
White, Richard Grant, do, Boston. 1872, 12 vols
Fac-simile Reprint, folio edition, 1623, 1 vol.
H. Staunton, London, 1866 : Fac-simile Reprint of 1st edition, London, 1594.
Taming of a Shrew, 4to., 1 vol.
Midsummer Night's Dream, Boston, 1870, 4to., 1 vol.
Midsummer Night's Dream, New York, 4to., 1 vol.

Catalogue of the Shakespearean library of the late Mr. Thomas D. King presented to the library of McGill College by the Hon. Donald A. Smith and W. C. MacDonald	Caldecott, Thomas, Hamlet and As You Like It, London, 1819, 8vo., 1 vol. Hunter, James, Hamlet and Othello, London, 1873, 12mo., 2 vols. Rolfe, Wm. J., Henry VIII., Tempest and Julius Cæsar, New York, 1871, 12mo., 3 vols. The Globe edition, London, 1867, 8vo., 1 vol. Macbeth and as You like It, Rugby edition, London, 1872, 12mo., 2 vols. Virtue, twenty-two parts, unbound.
Shakespeariana—Andrew Becket	Shakespeare's Himself Again. The Language of the Poet asserted, London, 1815, 2 vols.
Lord John Campbell	Shakespear's Legal Acquirements Considered, London, 1859, 1 vol.
Charles Cowden Clarke	Shakespeare's Characters, chiefly those subordinate, London, 1863, 1 vol.
Samuel Taylor Coleridge	Seven Lectures on Shakespeare, etc., London, 1856, 1 vol.
J. Payne Collier	The History of Dramatic Poetry to the time of Shakespeare and the Annals of the Stage to the Restoration, London, 1831, 3 vols.
J. Payne Collier	Shakespeare's Library, a collection of the ancient Novels, Romances, ćtc., used by Shakespeare as a foundation for his Dramas, 2 vols.
Francis Douce	Illustration of Shakespeare, London, 1839, 1 vol.
Edward Dowden	Shakespear, His Mind and Art, do, 1875, 1 vol.
Karl Elze	Essays on Shakespeare, translated by J. Dora Schmidt, London, 1874, 1 vol.
John Evans	The Progress of Human Life. Shakespeare, Seven Ages of Man, Chiswick, 1824, 1 vol. Exegesis of Shakespeare, Interpretation of his principal Characters and Plays on the principle of races, Edinburgh, 1859, 1 vol.
George Russell French	Shakesperean Genealogica, London, 1869, 1 vol
The Shakespeare Gallery	Ninety-four Photos, London, 1867, 1 vol.
Dr. G. G. Gervinus	Shakespeare's Commentaries, London, 1875, 1 vol.
Zachary Grey	Critical, Historical and Explanatory Notes, London, 1754, 2 vols.
Rev. Thomas Grinfield	On the Moral Influences of Shakespeare's Plays, London, 1850, 1 vol.
James Orchard Halliwell	An Introduction to Midsummer Night's Dream, 1841, 1 vol.
Wm. Hazlitt	On the Literature of the Age of Elizabeth and Characters of Shakespeare's plays, London, 1870, 1 vol
Washington Irving	Shakespeare's Home described, with etchings, by J. F. ćt W.W. Sabin, N. York, 1877, 1 vol.
L. Jackson	Shakespeare's Genius Justified, London, 1819, 1 vol.
Francis Jacox	Shakespeare's Diversions, London, 1875, 1 vol.
Mrs. Jameson	Characteristics of Women, London, 1858, 2 vols.
Thomas Kenny	The Life and Genius of Shakespeare, London, 1864, 1 vol.
R. G. Latham	Two dissertations on the Hamlet of Saxo Grammaticus and of Shakespeare, London, 1872, 1 vol.
Rt. Hon. J. Monck, Mason	Comments on the Plays of Beaumont and Fletcher, London, 1788, 1 vol.
Mrs. Elizabeth Montague	On the Writings and Genius of Shakespeare, London, 1765, 1 vol.
Wm. Richardson	Essay on Shakespeare's Dramatic Characters, London, 1818, 1 vol.
Schlegel, Augustus Wm	On Dramatic Literature and Art, London, 1815, 2 vols. Seven Ages of Man, illustrated, London, 1848, 1 vol.
E. H. Seymour	Remarks upon the Plays of Shakespeare, London, 1805, 2 vols.

Augustine Skottowe	The Life of Shakespeare, London, 1824, 2 vols.
Samuel Weller Singer	The Text of Shakespeare vindicated from the interpolations and corruptions advocated by J. Payne Collier, London, 1853, 1 vol.
	Tercentenary Celebration of the birth of Shakespeare by the New England Historic Genealogical Society of Boston, Boston, 1864, 1 vol.
D. Hennan Ulrici	Shakespeare's Dramatic Art, London, 1846, 1 vol.
George Wilkes	Shakespeare from an American Point of View, New York, 1877, 1 vol.
Daniel Wilson	Caliban, the Missing Link, London, 1873, 1 vol.
James Walter	Shakespeare's Home and Rural Life, London, 1874, 1 vol.
Henry Giles	Human Life in Shakespeare, Boston, 1868, 1 vol.
Chas. and Mary Lamb	Tales from Shakespeare, London, 1 vol.
George L. Craik	The English of Shakespeare, London, 1857, 1 vol.
J. Payne Collier	Notes and Emendations to the text of Shakespeare's Plays, Redfield, 1858, 1 vol.
	Dictionary of Shakespearean Quotations, Philadelphia, 1863, 1 vol.
Capt. A. F. P. Harcourt	The Shakespeare Argosy, London, 1874. 1 vol.
A. D. Kellogg	Shakespeare's Delineation of Insanity, Imbecility and Suicide, New York, 1 vol.
	Poems of Shakespeare, London, 1841, 1 vol.
Mrs. Cowden Clarke	The Complete Concordance to Shakespeare, London, 1864, 1 vol.
Alexander Schmidt	Shakespeare Lexicon, London, 1874, 2 vols.
J. O. Halliwell-Phillips	Outlines of the Life of Shakespeare, 3rd ed., London, 1883, 1 vol.
Henry Greene	Shakespeare and the Emblem Writers, London, 1870, 1 vol.
Nathaniel Holmes	The Authorship of Shakespeare, New York, 1875, 1 vol.
F. G. Fleay	Shakespeare Manual, London, 1876, 1 vol.
E. A. Abbott	A Shakesperean Grammar, London, 1873, 1 vol.
Chas. W. Stearns	The Shakesperean Treasury of Wisdom, New-York, 1869, 1 vol.
Samuel Ireland	Miscellaneous Papers and Legal Instruments under the hand and seal of Shakespeare, London, 1796, 1 vol.
Fred. D. Huntingdon	Religious and Moral Sentences Culled from the Works of Shakespeare, Boston, 1859. 1 vol.
Richard Simpson	Introduction to the Philosophy of Shakespeare, London, 1868, 1 vol.
James Brown	Bible Truths with Shakesperean Parallels, London, 1864, 1 vol.
Thomas Tyler	The Philosophy of "Hamlet," London, 1874. 1 vol.
	Shakesperiana, 1 vol.
	New Shakespeare Society's Publications—
	Henry the Fifth and Romeo and Juliet, 6 vols.
	Shakespeare Allusion Books, 1 vol.
	Transactions, 3 vols.
	Originals and Analogues, part I., series 3, 1 vol.
J. Hin Briswell	Life Portraits of William Shakespeare, London, 1864, 1 vol.
D. Barnstorff	A Key to Shakespeare's Sonnets, London, 18 62, 1 vol.
Mrs. Montague	An Essay on the Writings and Genius of Shakespeare, London, 1769, 1 vol.
Robert Dyer	Nine Years of an Actor's Life, London, 1833, 1 vol.
M. McDermott	A Philosophical Inquiry into the Source of the Pleasures Derived from Tragic Representations, 1824, 1 vol.
Dr. Herman Oestery	Shakespeare's Jestbook, London, 1866 1 vol.

D. J. Snyder	Shakespeariana, Sundry Essays, 1 vol. Kemp's Nine Daies' Wonder, reprint, Londop, 1600, 1 vol. Hamnet Edition, Macbeth and Julius Cæsar, 1 vol. One lot pamphlets, Newspaper Clippings, catalogues, etc.; One Plaster Cast on marble slab.
Prof. Penhallow	Collection of Plants of Northern Japan, also specimens of Japanese paper.
Dr. G. M. Dawson, F.G.S	Specimens of Sodalite from the Rocky Mountains.
Thomas Currie	Crystal of Apatite.
Dickson Anderson	Two specimens South American Snakes.
W. A. Oswald, Belle Riviere	Specimen of Natural Grafting.
Dr. Charles Mohr	Collection of Woods of South ern United States.
U. S. Government, Washington, U.S	Coast and Geodetic Survey, report for the year 1882, 1 vol. Annual Report of the Chief of Engineers for the year 1884, 4 vols.
Dominion Geological Survey, Ottawa	Sketch of the Physical Geography and Geology of the Dominion of Canada. Comparative Vocabularies of the Indian Tribes of British Columbia.
Louis Lesage, Montreal	Thirty-six pamphlets referring to the Montreal Waterworks.
Joseph F. Murray, Montreal	Bulwer Lytton, Kenelm Chillingly, London, 1874
W. A. Ingham, Philadelphia	Second Geological Survey of Philadelphia report K 4.
Prof. Wm. Osler	Le Naturaliste Canadien, vols. 1 to 13, 1869 to 1882, Quebec. The Canadian Journal, first and second series, 18 vols. Harvey, Trees and their Nature, London, 1885. Gray, First Lessons in Botany and Vegetable Physiology, New York, 1867.
Spencer F. Baird, Washington	Bulletin Fish and Fisheries Commission, for 1884
Prof. G. H. Darwin, Cambridge, Eng.	Computation Forms for the Harmonic Analysis of Tidal Observations.
Institute Civil Engineers, London	Minutes of Proceedings and Name Index, Vols. I. to LVIII., London, 1885.
Senatus Academicus, Edinburgh University	Tercentenary records, Edinburgh, 1885.
Sir William Dawson	Geological Survey of the Territories, vol. III. Cope's Tertiary Vertebrata, book I., Washington, 1884.
American Association Mechanical Engineers	Transactions of the Society, vol. I to V. and index, New York, 1880-84.
George Gould, London, Eng	Shakespeare Corrigenda and the Greek Plays in their relation to the dramatic unities.
Prof. Guiscardi, Naples	Collection of Rocks and Minerals of Vesuvius.
J. F. Torrance, B.A	Specimens of Quartz, Silver Ore, etc., from Marlow, P.Q.
Mr. F. B. Caulfield	Specimen of Tamias Striatus.
C. H. Livingstone	Collection of Plants from New Brunswick.
Mr. E. P. Mathewson	Specimens of Mineral Charcoal, Cumberland mine, Nova Scotia.
Rev. H. H. Winwood, Bath, Eng	Collection of Rhætic Fossils.
Charles Gibb, B.A	Collection of recent Shell Limestones, from Florida.
A. H. McKay, Pictou, N.S	Specimens of Spongillidæ, from Nova Scotia.
Anonymous	Dictionary of Arts, 3 folio volumes. Pinkerton's Modern Geography, 3 vols. Clarke's Remains, 1 vol.
Norwegian Government, Christiania	North Atlantic Expedition, Christiania, 1884-5.
George H. Cook, New Brunswick, N.J.	Annual Report of the State Geologist for 1884.
The Lords Commissioners H. M. Treasury, London	Scientific Results, Voyage of H.M.S. "Challenger" Zoology, Vol. XI., London, 1884.
Sir William Dawson	Comstock Mining and Miners, by Lord Washington, 1830.
Do	Copper-bearing Rocks of Lake Superior, Washington, 1883.

Trustees of the British Museum, London.....	Catalogue of Birds, Vol. X., London, 1885. Catalogue of Fossil Mammalia, London, 1885. Catalogue of Lizards, London. 1885. Guide to Collection of Fossil Fishes. Guide to Galleries of Mammalia.
The Baldwin Locomotive Works, Philadelphia.....	Illustrated Catalogues of Narrow Gauge and General Locomotive Works, 2 vols.
Institute Civil Engineers, London.....	Minutes of Proceedings of the Institute of Civil Engineers, vol. 79.
The Regents, N. Y. State Library Albany....	Regent's Reports, Vols. LXXXIX. to XCVII., 9 vols. Cabinet Reports, 10 vols. Colonial History. Natural History of New York State, Paleontology.
W. A. Ingham, Esq., Pennsylvania	Second Geological Report of Pennsylvania, 1 vl. Atlases North Coal Field, 2 vols. Atlas Petroleum Regions, 1 vol.
Royal Society of Canada	Proceedings and Transactions of vol. 2, Montreal, 1885.
British Ass. Advt. of Science, London.....	Report of Meeting held in Montreal, London, 1885.
London University, England.....	Calendar for 1885-86.
United States Government, Washington.....	Langley, Mount Whitney Expedition, Washington, 1883.
Do do do	Reports of Census, 1881, 12 vols.
Peabody Institute, Baltimore.....	Catalogue of the Library, vol. II., Baltimore, 1885.
Hon. Robert MacKay, Montreal	Cobbett's Parliamentary History, from 1066-1803, 36 vols. Transactions in Parliament from the Conquest to the Restoration of Charles 2nd., 24 volumes Debates in the House of Lords, from 1660 to 1743, 8 vols. Debates in the House of Commons, from 1660 to 1742, 14 vols. Debates in both Houses, from 1743 to 1774, 7 vols Cox's Book of Martyrs, London, 1684, 3 fol.vols. Godwin's History of the Commonwealth, 4 vols. Weld's Travels, 2 vols. Taine's English Literature, 2 vols. Taylor's Transmission of Ancient Books, 1 vol. Gesta Romanorum, 1 vol.
Graduates Society.....	Blair, Lectures on Rhetoric and Belles-Lettres, Philadelphia, 1857.
National Academy of Sciences, New York...	First Memoir, Report of Eclipse Expedition to Caroline Islands, 1883.
Cambridge Philosophical Society	Vol. 14, Part I., Transactions and Proceedings of.
Royal Dublin Society.....	Transactions and Proceedings of, for 1883-4.
W. H. Winchell, Minneapolis	First, 10th, 11th and 12th Annual Reports of the Geol. and Nat. History Survey of Minnesota, Minneapolis, 1884.
Engineers' Society, London	Transactions of the — for 1884.
Wm. Notman & Son	Photographs of the Principal and Professors in Arts and Science.
U. S. Government, Washington.....	The Census of the United States for 1880. Ten quarto volumes and Atlas.
Hon. Robert MacKay.....	Halliwell, Shakespeariana, 1 vol. Chamber's History of the Russian War. History of the Franco-German War, 2 vols. Devere's Americanisms. Life and Letters of Edward Gibbon. The Trial of Charles Angus. Carrel, History of the Counter Revolution in England. Burlamaqui, Natural and Political Law, 2 vols. Life of Sir M. Hale, 2 vols. The Saturday Magazine, 13 vols.
Brockville Natural History Society.....	Bulletin No. I. for 1885.
The Lords Commissioners H. M. Treasury ...	Vol. I. in 2 Parts, Narrative of the Scientific Cruise of H.M.S. "Challenger."

Prof. Ball, Dublin.....Astronomical observations made at Dunsink.
W. C. McDonald, Esq., Montreal.....15 vols. Publication of the Shakespeare Society.

PRINCIPAL DONATIONS TO THE MUSEUM.

From Mr. Thomas Watson, Little Rideau—Specimen of *Rusichnites.*

" Charles Gibb, B.A.—Specimens of *Echinus* and *Siderastrea*, West Indies.

" F. Hague, B.C.L.—Two mounted specimens of Plover and of Bittern.

" Mr. J. Hoyes Panton, Winnipeg—Collection of Fossils from Manitoba and North-West Territory.

" Mr. A. E. Barlow, Ottawa—Specimen of Jasper from Hull.

" The Right Reverend the Bishop of Huron—Large specimen of Amethyst and Fluor Spar, Thunder Bay.

" Mr. J. F. Nelles, Ottawa—Specimen of Apatite from Wakefield.

" Mr. James Crossley—Specimen of Samarskite, Berthier.

" Dr. Selwyn, F.R.S.—105 specimens Rocks from Eastern Townships.

" Mr. Charles Robb—Crystal of Phlogopite from N. Burgess.

" Col. Grant, Hamilton, Ont.—Fossils from the Clinton Formation, Hamilton.

" Prof. Boyd Dawkins, F.R.S., Manchester—Collection from Cresswell Caves.

" Prof. T. Rupert Jones, F.R.S., London—Collection of Fossils from South Africa.

" Prof. Renault, Paris—Fossil Plants from St. Etienne coalfield.

" Trustees of British Museum—Casts of Mesozoic Fossils.

" Prof. Van Koenen, Gottingen—Permian Fossils from Germany.

" Mr. R. Bell, London—Carboniferous and Cretaceous Fossils.

" Dr. John Evans, F.R.S.—Collection of Flint Implements.

" Mr. W. S. M. d'Urban, Exeter, England—Collection of Palæolithic Implements.

" Mr. J. H. Thomas, Cardiff, England—Two casts Fossil Footprints.

" Trustees Free Museum, Liverpool, England—Skeleton of Gorilla.

" Dr. W. B. Carpenter, F.R.S., London—Specimens of *Orbitolites.*

" Mr. John E. H. Peyton, F.G.S.—Specimens of Wealden Fossils from England.

" Mr. J. K. Byrom, Manchester—Specimen of Fossil *Nelumbium* from Saskatchewan River.

" Geological Survey of Canada—Collection of Minerals.

" Mr. George Jammé, Londonderry, N.S.—Collection of Iron Ores.

" Mr. W. Drysdale—Specimen of *Clupea alta*, Utah.

" Mr. F. W. Blacklock—Specimen of Lamprey.

" Charles Gibb, B.A., Abbottsford—Specimens Canadian Woods, also specimens illustrating Diseases of Plants.

From Mr. Henry Brooks, Boston—Sections of Woods.

" Prof. Penhallow—Collection of Plants from Northern Japan; specimens Japanese Paper.

" Dr. G. M. Dawson, F.G.S.—Specimen of Sodalite from the Rocky Mountains.

" Mr. Thomas Currie—Crystal of Apatite.

" Mr. Dickson Anderson—Two species of West Indian Snakes.

" Mr. W. A. Oswald, Bellerivière—Specimen of Natural Grafting.

" Dr. Chas. Mohr, of Mobile, Ala.—Collection of Woods from Gulf States.

" Charles Gibb, B.A., Abbottsford—Specimen of *Luffa Egyptiaca*.

" G. F. Matthew, Esq., St. John, N.B.—Collection of Cambrian Fossils.

" H. A. Ami, M.A.—Specimen of *Endoceras*.

" W. E. Lyon, Esq.—Collection of California Plants.

McGill Normal School.

1885-86.

GOVERNMENT OF THE SCHOOL.

Under the Regulations for the establishment of Normal Schools in the Province of Quebec, the Superintendent of Public Instruction is empowered to associate with himself for the direction of one of these Schools the Corporation of McGill University, Montreal. In accordance with this arrangement the Provincial Protestant Normal School is affiliated with the McGill University, and the following members of the Corporation of the University constitute the Committee of the Normal School for the Session of 1885-86.

NORMAL SCHOOL COMMITTEE.

SIR WM. DAWSON, LL.D., F.R S., Vice-Chancellor of the University, *Chairman*.

HON. JAMES FERRIER, Senator,
HON. F. W. TORRANCE, M.A., B.C.L., } Governors of McGill College.

REV. GEORGE CORNISH, LL.D.,
J. R. DOUGALL, M.A., } Fellows of McGill University.

WILLIAM CRAIG BAYNES, B.A., *Secretary*.

OFFICERS OF INSTRUCTION.

McGILL NORMAL SCHOOL.

Emeritus Principal and Associate Professor.

WILLIAM HENRY HICKS, ESQ.

SAMPSON PAUL ROBINS, M.A., LL.D., *Principal and Ordinary Professor of English Language and Literature, and Lecturer on Art of Teaching and Natural Science.*
JAMES McGREGOR, M.A., LL.D., *Ordinary Professor of Mathematics and Instructor in Classics.*
PIERRE J. DAREY, M.A., B.C.L., *Associate Professor of French.*
MR. R. J. FOWLER, *Instructor of Music.*
MR. JOHN ANDREW, *Instructor in Elocution.*
———*Instructor in Drawing.*
MISS ROBINS, *Assistant to the Principal.*

MODEL SCHOOLS OF McGILL NORMAL SCHOOL.

MR. GEORGE PARMELEE, *Head Master of Boys' School.*
MISS JANE A. SWALLOW, *Head Mistress of Girls' School.*
MISS LUCY H. DERICK, *Head Mistress of Primary School.*

ANNOUNCEMENT FOR THE SESSION 1885-86.

This institution is intended to give a thorough training to teachers, especially for the Protestant population of the Province of Quebec. This end is attained by instruction and training in the Normal School itself, and by practice in the Model Schools ; and the arrangements are of such a character as to afford the greatest possible facilities to Students from all parts of the Province.

The thirtieth Session of this school will commence on the first of September, 1885, and close on the twenty-eighth of May, 1886. The

complete course of study extends over three years, and the students are graded as follows :—

1. *Elementary School Class*,—Studying for the Elementary School Diploma.
2. *Model School Class*,—Studying for the Model School Diploma.
3. *Academy Class*,—Studying for the Academy Diploma.

---

1. CONDITIONS OF ADMISSION AND OF OBTAINING DIPLOMAS.

Candidates for admission into the Elementary School Class will be required to pass an examination in Reading, Writing, the elements of Grammar, Arithmetic and Geography ; and to produce the certificate and sign the application referred to in Articles 1 and 2 of the Regulations. Admission into each of the higher classes requires a knowledge of the subjects of the previous one.

Those admitted to the Elementary School Class at the beginning of the Session must be able to parse correctly a simple English sentence ; must know the continents, greater islands, peninsulas, and mountains, the oceans, seas, larger gulfs, bays, straits, lakes and rivers, and the chief political divisions and most important cities of the world, must write neatly a dictation from any school reader, with no more than five per cent. of mistakes in spelling, in the use of capitals and in the division of words into syllables ; and must be able to work correctly examples in the simple rules of Arithmetic and in fractions.

Associates in Arts of the University, of the requisite age, may be admitted into the Elementary School Class, and, provided that they have passed in Geometry, Algebra and French, into the Model School Class, without examination.

In the examinations for entrance into the Academy Class, the Principal may allow exemptions to Associates in Arts for the subjects in which at the examinations for that certificate they have passed with credit.

Each Student must produce a certificate of good moral character from the clergyman or minister of religion under whose charge he has last been, and also testimony that he has attained the age of sixteen years. He will also be required to sign a pledge to teach for three years in some public school in the Province of Qnebec.

Candidates for admission will be furnished with forms of application on communicating with the Principal of the School.

There will be a Semi-sessional Examination at Christmas, which all Students are required to pass in order to continue in the Classes.

At the close of the first year of study Students may apply for examination for diplomas giving the right to teach in Elementary Schools; and after two years' study, or, if found qualified at the close of the first year, they will, on examination, be entitled to diplomas as teachers of Model Schools.

Students having passed the examination for the Model School Diploma, with creditable marks in Classics and Mathematics, or having otherwise advanced to the requisite knowledge, may go on to the Academy Class, and, on examination, may obtain the Academy Diploma.

Students are expected to give their whole time and attention to the work of the School, and are not permitted to engage in any other course of study or business during the sessions of the School.

---

2. Privileges of Students.

On complying with the above conditions, all Students will be recognized as *Teachers-in-training*, and as such will be entitled to free tuition, and to bursaries in aid of their board and of the cost of text books, not exceeding $36.00 per annum in the two first Classes nor $80.00 in the Academy Class, should they be successful in obtaining the diploma at the final examination. A portion of this allowance will be advanced to such Students as are not resident in Montreal, on their passing the semi-sessional examination.

Under the regulations subjoined, and with the view of extending the benefits of the School to all parts of the country, those who reside at a distance of more than ninety miles from the city of Montreal will also be entitled to a small allowance for travelling expenses, proportionate to the distance.

Students resident in Montreal may share in the Bursary Fund, on producing certificates from their ministers or clergymen that such aid is absolutely necessary to their continuing in attendance at the School.

In addition to religious instruction of a general Protestant character by the Professors, arrangements will be made for special religious

instruction by ministers representing the several denominations with which the Students may be connected.

No boarding-house is attached to the institution, but every care will be taken to ensure the comfort and good conduct of the Students in private boarding-houses approved by the Principal. Board can be obtained at from $12 to $16 per month.

The J.C. Wilson Prize of $40 and a Book, contributed by him as a former Student of the School, will be offered for competition to the candidates for the Elementary Diploma, and will be given for the highest aggregate number of marks.

The Prince of Wales Medal and Prize will be given to the student taking the highest place in the Model School Class, provided that such student shall attain to the standard fixed by the Regulations of the Council of Public Instruction for this Medal.

The Marquis of Lansdowne Medal will be given to the student taking the highest place in the Academy Class.

It has been resolved by McGill University and by St. Francis College, Richmond, to accept the Academy Course in the Normal School as the equivalent of the First Year in the Faculty of Arts on certain equitable conditions, so that all who have passed satisfactorily through that Course are entitled to enter the second year of the Course in Arts without further examination. The McGill University also offers free tuition in the Faculty of Arts in the second year to such students of the Academy Class, not exceeding three in number, as at the final examinations take 75 per cent. of the total marks, with not less than two-thirds of the marks in Latin and in Greek.

All the preceding regulations and privileges apply to female as well as to male students.

Persons holding the degree of B.A. or M.A. of any British or Canadian University may receive the Academy diploma, in accordance with the Regulations of the Protestant Committee of the Council of Public Instruction.

3. Course of Study.

N.B.—The subjoined Course of Study has been designed, and all instruction in it is given, with express reference to the work of teaching.

---

1. ELEMENTARY SCHOOL CLASS, STUDYING FOR THE ELEMENTARY SCHOOL DIPLOMA.

With the view of accommodating teachers actually in charge of schools at the commencement of the Session, and whose previous education may enable them to enter at a more advanced period, the course of study in this class is divided into terms, as follows:—

First Term, from September 1st to December 3rd.

(Entrance examination as stated above.)

English.—The structure of sentences. Orthography and Ortheopy. Penmanship. The study of Macaulay's Essay on Milton.

Geography.—General view of continents and oceans. Map of North America

History.—Outline of general and of sacred history.

Arithmetic.—Simple and compound rules and fractions.

Algebra.—The elementary rules.

Geometry.—First Book of Euclid to 20th proposition.

French.—Darey's Principes de Grammaire Francaise to page 54. Lectures Francaises to page 20.

Chemistry.—Lectures.

Reading and Elocution.

Drawing. Elements and simple outlines.

Music.—Vocal music with part songs.

Second Term, January 6th to end of Session.

(No pupils will be received after the commencement of this term. Those who enter must pass the examination of the class in the work detailed above.)

English.—Structure of words and sentences. Etymology, derivation and syntax. Study of Milton's L'Allegro and Il Penseroso.

Geography.—Contour, elevations, river systems, political divisions and chief cities of South America and the Old World.

History.—England.

Arithmetic.—Proportion and percentage. Properties of numbers. Mensuration.

Algebra.—Simple equations of one unknown quantity with problems.

Geometry.—First book of Euclid with deductions.

Art of Teaching.—Lectures on education as related to the physical, mental and moral nature of the child, and to the demands of society.

French.—Grammar continued, including reading, translation, oral and written exercises. Dominion Phrase Book.

Botany.

Reading and Elocution.

Drawing.—Freehand, industrial.

Music.—Elements of vocal music and part songs.

Practice in Teaching in the McGill Model Schools and in the St. George's Model School as directed by the Principal.

Religious Instruction will be given throughout the Session.

In addition to the text-books named above, each student of the Elementary School Class must be provided with an English Grammar, an English History, an Atlas of recent date, an Arithmetic, Todhunter's Algebra, and a Euclid.

If any of the books have to be purchased it will be well to defer the purchase until the class assembles.

---

2. MODEL SCHOOL CLASS, STUDYING FOR THE MODEL SCHOOL DIPLOMA.

(*Students entering the school in this second year must have passed a satisfactory examination in the subjects of the Elementary School Class, and will be expected to attend the lectures on the Art of Teaching given in that Class. The Class will pursue its studies throughout the Session, without division into terms.*)

English.—Principles of grammar and composition. Style. History of the English Language. Study of Shakespeare's Tempest, Poe's Sleeper and Tennyson's Lotos Eaters.

Geography.—Mathematical and physical. Use of the globes.

History.—Rome, Canada.

Art of Teaching.—Lectures on methods of education and school arrangements, including school laws.

Arithmetic.—Commercial arithmetic and bookkeeping. Logarithms.

Algebra.—Equations of more than one unknown quantity, and quadratics.

Geometry.—Second, third and fourth books of Euclid with application to mensuration.

Object Lessons.

Latin.—Elements as in Bryce's 1st Latin Reader.

Greek.—Optional after Christmas to students sufficiently advanced.

French.—Translation from French into English, and from English into French; Darey, Principes de Grammaire Francaise, Lectures Francaises, Dominion Phrase Book.

Agricultural Science.—Principles, especially chemical and botanical, and application to Canadian agriculture.

Elocution.

Drawing.—Elements of perspective.

Music.—Instrumental music, part songs, and rudiments of harmony.

Practice in Teaching.—In the McGill Model Schools and in the St. George's Model School as directed by the Principal.

Religious Instruction throughout the Session.

In addition to text-books named above, each student of the Model School Class must be provided with an English Grammar, a History of Canada, a History of Rome, an Arithmetic, a Todhunter's Algebra, a Euclid, and Dawson's Scientific Agriculture.

If any of the books have to be purchased it will be well to defer the purchase until the class assembles.

---

3. ACADEMY CLASS, STUDYING FOR THE ACADEMY DIPLOMA.

(*Students entering this Class must have passed a creditable examination in the subjects preparatory to the Course of Study.*)

Logic.—Jevons' Elementary Lessons.

Anglo-Saxon.—Sweets' Primer.

Philology.—Lectures.

Chemistry.—Review with the Elementary School Class.

Mathematics.—Euclids, definitions of Book V., Book VI; Plane Trigonometry—Galbraith and Haughton.

Latin.—Virgil, Æneid, Book VI., Cicero in Cæcilium, prose composition.

Greek.—Homer Odyssey, Book XXI.

History.—Rome.

French.—Review with the Model School Class.

Elocution.

Drawing.

All pupils of this class who have not previously done so, must attend lectures on the Art of Teaching in the Elementary and Model School Classes. They must teach in the McGill Model Schools as directed by the Principal.

In addition to text-books named above, each student entering the Academy Class must be provided with Greek and Latin Grammars and Dictionaries. If any of the books have to be purchased it will be better to postpone the purchase until the class assembles.

BY-LAWS OF McGILL NORMAL SCHOOL.

(Special Regulations for the admission of Teachers-in-Training.)

Article First.—Any person desirous of being admitted as a Teacher-in-training must apply to the Principal of the Normal School, who, on his producing an extract from the Register of Baptisms, or other evidence, showing that he is full sixteen years of age, with the certificate of character and conduct required by the 6th article of the General Rules and Regulations, approved by His Excellency the Governor-General in Council, on the 22nd December, 1856, shall examine the candidate.

If upon his examination it is found that the candidate can read and write sufficiently well, knows the Rudiments of Grammar in his mother tongue, Arithmetic as far as the rule of three inclusively, and has some knowledge of Geography, the Principal shall grant him a certificate.

Article Second.—The candidate having thus obtained the certificate of the Principal, shall then (in the presence of two witnesses, who, with the Principal, shall countersign the same) sign an application in writing for admission, containing the declaration required by the 23rd general regulation. This shall be forwarded to the Superintendent of Education, together with all the certificates and other documents required, and, if the whole be found correct, the Superintendent shal cause the name of the candidate to be inscribed in the Register, and notice thereo shall be given to the Principal.

Article Third.—The Teachers-in-training shall state the place of their residence; and those who cannot reside with their parents will be permitted to live in boarding-houses, but in such only as shall be specially approved of. No boarding-houses having permission to board male Teachers-in-training will be permitted to receive female Teachers-in-training as boarders, and *vice-versa*.

Article Fourth.—Every Teacher-in-training, on passing the examination, will be allowed a sum, not exceeding $36,* to assist in paying his board.

Article Fifth.—Every Teacher-in-training residing at a distance of more than ninety miles from the City of Montreal, shall be entitled to receive an allowance for travelling expenses proportionate to the distance, but not to exceed ten dollars *per annum*.

Article Sixth.—The total amount of allowances paid to Teachers-in-training under the foregoing articles shall not exceed $1,333·33 currency, yearly—that being the sum granted for that object; and when the whole of this amount is appropriated, such Teachers-in-training as may apply for admission shall not be entitled to any portion thereof until vacancies shall occur.

---

*Except in the case of Teachers-in-training for the Academy Diploma, who may receive a sum not exceeding $80.

(*Special Regulations for Government and Discipline.*)

Article First.—Teachers-in-training guilty of drunkenness, of frequenting taverns, of entering disorderly houses or gambling houses, or keeping company with disorderly persons, or committing any act of immorality or insubordination, shall be expelled.

Article Second.—There shall be no intercourse between the male and female Teachers-in-training while in School, or when going to, or returning from it. Teachers of one sex are strictly prohibited from visiting those of the other.

Article Third.—They are on no account to be absent from their lodging after half-past nine o'clock in the evening.

Article Fourth.—They will be allowed to attend such lectures and public meetings only as may be considered by the Principal conducive to their moral and mental improvement.

Article Fifth.—Proprietors of boarding-houses authorized by the Principal shall report to him any infraction of the rules with which they may have become acquainted.

Article Sixth.—The Professors shall have the power of excluding from the ectures for a time any student who may be inattentive to his studies, or guilty of any minor infraction of the regulations.

Article Seventh.—Teachers-in-training will be required to state with what religious denomination they are connected ; and a list of the Students connected with each denomination shall b furnished to one of the Ministers of such denomination resident in Montreal, with request that he will meet weekly with that portion of the Teachers-in-training, or otherwise provide for their religious instruction. Every Thursday after four o'clock will be assigned for this purpose.

Article Eighth.—In addition to punctual attendance at weekly religious instruction, each Student will be required to attend public worship at his own church, at least every Sunday.

THE GRADUATES' SOCIETY

OF

McGILL UNIVERSITY.

INCORPORATED 1880.

OFFICERS FOR 1885–86.

President:
C. H. McLEOD, MA. E.

Vice-Presidents:
JAMES STEWART, M.D.
F. W. KELLY, PH.D.
ARCHIBALD McGOWN, B.C.L.

Secretary:
J. RALPH MURRAY, B.A.

Treasurer:
WM. J. SPROULE, B.A. SC.

Resident Councillors:

F. J. SHEPHERD, M.D.
WM. McLENNAN, B.C.L.
W. T. SKAIFE, B.A. SC.
H. H. LYMAN, M.A.
JAMES BELL, M.D.
WM. MOLSON, M.D.

Non-Resident Councillors:

J. J. MACLAREN, M.A., Toronto.
WM. OSLER, M.D., Philadelphia.
JAMES GRANT, M.D., Ottawa.
J. F. TORRANCE, B.A. Sc., Beauce, P.Q.
REV. R. LAING, M.A., Halifax.
REV. E. J. REXFORD, B.A., Quebec.

CONTENTS.

	PAGES.
GENERAL ANNOUNCEMENTS :—	
Governing Body, Officers of Instruction, General Statement, Benefactors, Calendar	1 to 24
FACULTY OF ARTS :—	
Regulations and Course of Study	25 to 62
DONALDA SPECIAL COURSE FOR WOMEN :—	
Regulations and Course of Study	63 to 66
FACULTY OF APPLIED SCIENCE :—	
Regulations and Course of Study	67 to 82
FACULTY OF MEDICINE :—	
Regulations and Course of Study	83 to 111
FACULTY OF LAW :—	
Regulations and Course of Study	112 to 119
UNIVERSITY SCHOOL EXAMINATIONS :—	
For Associate in Arts and Higher Examination of Women	120 to 126
MCGILL NORMAL SCHOOL :—	
Regulations and Course of Study	198 to 207
UNIVERSITY AND COLLEGE EXAMINATIONS :—	
LIST OF GRADUATES	154
LIST OF STUDENTS	173
SCHOOL CERTIFICATES	180
DONATIONS TO LIBRARY AND MUSEUM	187
SOCIETY OF GRADUATES	208

EXAMINATION PAPERS

OF THE

McGILL UNIVERSITY,

MONTREAL.



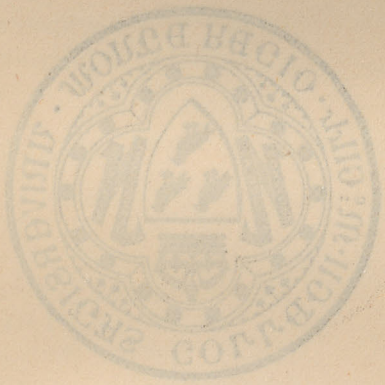
SESSION OF 1884-85.

Montreal:

PRINTED BY JOHN LOVELL & SON,

ST. NICHOLAS STREET,

1885.



EXAMINATION PAPERS

ORDER OF EXAMINATION PAPERS.

1. FACULTY OF ARTS.

	PAGE
SCHOLARSHIPS AND EXHIBITIONS, 1884 ..... pp.	1–36

SESSIONAL EXAMINATIONS, 1885.

CLASSICS :—*Ordinary*	37
" *Third Year Honours*	58
MATHEMATICS AND NATURAL PHILOSOPHY :—*Ordinary*	63
" " " *Honour*	74
ENGLISH LANGUAGE, LITERATURE AND HISTORY :—*Ordinary*.	84
" " " " *Honour* ..	91
LOGIC AND MENTAL AND MORAL PHILOSOPHY :—*Ordinary*...	104
" " " " *Honour* ...	108
FRENCH :—*Ordinary*	113
" *Honour*	116
GERMAN	124
HEBREW	133
NATURAL SCIENCE, CHEMISTRY (Botany—Zoology and Palæontology—Mineralogy—Geology) :—	
Ordinary	138
Honour	143

2. FACULTY OF APPLIED SCIENCE.

ENTRANCE PRIZE AND SCHOLARSHIP EXAMINATIONS, 1884....	154
SESSIONAL EXAMINATIONS, 1885	158
DESCRIPTIVE GEOMETRY	194
SURVEYING, DRAWING, &C	196

3. FACULTY OF MEDICINE.

MATRICULATION EXAMINATIONS, 1885	219
SESSIONAL EXAMINATIONS, 1884–85	226

4. FACULTY OF LAW.

SESSIONAL EXAMINATIONS, 1885	235

5. UNIVERSITY SCHOOL EXAMINATIONS.

PRELIMINARY SUBJECTS	251
OPTIONAL SUBJECTS	255

FACULTY OF ARTS.

FACULTY OF ARTS.

SCHOLARSHIPS AND EXHIBITIONS, 1884.

CLASSICAL AND MODERN LANGUAGE SCHOLARSHIPS.

GREEK.

TUESDAY, SEPTEMBER 23rd :—MORNING, 9 TO 12.

Examiner,.....REV. GEORGE CORNISH, LL. D.

1. Translate :—(A) Euripides, Medea, vss. 325—340.

2. (*a*) *μὴ πρὸς σὲ γούνων* :—explain the construction. *ἀνάλοῖς, ἐξελᾷς* :—parse, and explain the use of the Optative. (*b*) vss. 37 and 318, *μή τι βουλεύσῃ νέον*, and *μή τι βουλεύῃς κακόν* :—give the exact distinction between these two forms of expression. vss. 316, 416, and 458, *κρεισσόνων νικώμενοι, θεῶν πίστις, ἀνίης μωρίας* :—construe, and explain the use of the genitives in these several expressions.

3. Translate :—(B) Demosthenes, Olynthiacs, II., sec. 24 :—from *εἰ δε τίς ὑμῶν* down to *δεῖ περιῆμεν*.

4. Explain the construction of :—(*a*) *εὔνοιαν ἔχειν*. (*b*) *φοβερον προςπολεμῆσαι*. (*c*) *μή τί γε δὴ τοῖς θεοῖς*. (*d*) *ἡμῶν μελλόντων*. (*e*) *αὐτὸν ἀργοῦντα*.

5. Translate :—(C) Xenophon, Hellenics, I., chap. v., secs. 2—4.

6. (*a*) Comment on the various readings *ἀντ' ἐπιτηδείων γενομένων*—*ἀνεπιτηδείων γινομένων, γινωσκόντων*—*οὐ γινωσκόντων, ἀπείρους δὲ*—*τε*—*δὴ*, in sec. 4, ext. (C), and point out which are to be preferred, and why ? (*b*) Briefly contrast the character and policy of Lysander and Kallicratidas in their conduct of affairs. (*c*) Give the geographical positions, severally, of the following places, with the modern names of any :—Malea, Agrigentum, Decelea, Chrysopolis, Byzantium, Phocaea, Heraclea, Coryphasium.

7. Translate :—(D) Herodotus, VIII., chaps lxxxv-vi.

8. Give an account of the dialect used by Herodotus, and turn the following words into the Common Dialet :—*ὦν, ποιέει, ἑωυτοῦ, ἀπίκατο, ὀτεῳ, ἀληθέα, πλώοντες, τρηχέως, θύρῃσι, νῆας, πείθεο, πλεῦνες*.

9. Translate :—(B) Thucydides, Bk. VI., chap. lxxv.

10. Translate carefully the following ext. :—(*a*) cap. 1.—*τοσαύτη οὖσα * * * διέργεται τὸ μὴ ἤπειρος οὖσα* ;—explain the use of *μὴ* in such phrases. (*b*) cap. 2.—*πρῶτοι φαίνονται ἐνοικισάμενοι* :—distinguish between *φαίνομαι* with the Infinitive, and the Participle as here. (*c*) cap. 6.—*ὧν ἀκούοντες οἱ Ἀθηναῖοι * * * πολλάκις λεγόντων* :—account for the use of two genitives with *ἀκούω*. (*d*) cap, 33.—*ὡς οὖν παρεσομένων* : give the force of *ὡς*. (*e*) cap. 59.—*ὡς βασιλέα* :—explain this use of *ὡς* and also of *βασιλέα* without the Article. (*f*) cap. 72.—*ἑαυτῆς θαρσαλεωτέραν* :—explain the construction.

LATIN.

WEDNESDAY, SEPTEMBER 24TH :—MORNING, 9 TO 12.

Examiner,.....REV. GEORGE CORNISH, LL.D.

1. Translate :—(A) Tacitus, Annals, Bk. I., chap. 59.

2. (*a*) What peculiarities in the style of Tacitus are exemplified in the above ext.? (*b*) How far may the political sympathies of Tacitus be inferred from his writings? (*c*) *Tres legiones, totidem legatos* :—Give the numbers and names. (*d*) *Arminium* :—Give the modern German equivalent. (*e*) *Sibi* procubuisse :—Explain the force of the Dative. (*f*) bellum *tractare; nescii tributa* :—Comment on these usages.

3. Translate :—(B) Pliny, Select Letters :—

C. PLINUS SABINIANO SUO S.

Libertus tuus, cui suscensere te dixeras, venit ad me advolutusque pedibus meis tamquam tuis haesit. Flevit multum, multum rogavit, multum etiam tacuit, in summa fecit mihi fidem paenitentiae. Vere credo emendatum, quia deliquisse se sentit. Irasceris, scio, et irasceris merito, id quoque scio: sed tunc praecipua mansuetudinis laus, cum irae causa iustissima est. Amasti hominem et, spero, amabis: interim sufficit ut exorari te sinas. Licebit rursus irasci, si meruerit, quod exoratus excusatius facies. Remitte aliquid adulescentiae ipsius, remitte lacrimis, remitte indulgentiae tuae: ne torseris illum, ne torseris etiam te. Torqueris enim, cum tam lenis irasceris. Vereor ne videor non rogare, sed cogere, si precibus eius meas iunxero. Iungam tamen tanto plenius et effusius, quanto ipsum acrius severiusque corripui destricte minatus numquam me postea rogaturum. Hoc illi, quem terreri oportebat, tibi non idem. Nam fortasse iterum rogabo, impetrabo iterum: sit modo tale ut rogare me, ut praestare te deceat. Vale.

4. (*a*) Write a short account of the life and character of Pliny. (*b*) Instance from the New Test. an epistle similar to this.

5. Translate :—(C) Virgil, Georgics, Bk. I., vss. 160-175.

6. (*a*) Name the Greek authors, severally, whom Virgil imitated in his Eclogues, Georgics, and the Æneid. In which department of poetry was he most successful? (*b*) Give the Greek terms for :—tribula, buris, temo, jugum, and stiva.

7. Translate :—(D) Horace, Satires I., sat. vii., vss. 1-20; and (E) Epistles, I., ep. vi., vss. 56–68.

8. (*a*) Note points of distinction between the *Satires* and *Epistles* of Horace as to their character, style, etc. (*b*) In what department of his poetry does Horace excel? (*c*) Explain the meaning of the following :—1 *Ut equis* praecurrerat *albis*. (2) Omni *conventu*. (3) *Magna* compellans *voce cucullum*. (4) Serpens *Epidaurius*. (5) Cum *tristes* venere *Kalendae*. (6) *Altius* ac nos *praecinctis* unum. (7) *ad unguem* factus homo. (8) *Parochi* quae debent ligna salemque.

9. Translate :—(G) Terence, Adelphi, Act. v., Sc. 1.

10. (*a*) Which is the correct form Aedepol or Edepol? Also explain the orms satur, sis, dis; and construe nollem huc exitum. (*b*) Translate and explain the following extracts :—(1) Acta Ludis funebribus Æmili Paulli. (2) Modos fecit L. Flaccus Claudi tibiis sarranis. (3) Factae Græca Menandru.

11. Parse, and write down the full forms of :—erepsemus, surrexe, rere, submosses, peccaro, siit, operiere, consolere, reprensum, insuerit, cedo, sodes.

GREEK AND LATIN PROSE COMPOSITION.

TUESDAY, SEPTEMBER 23RD : — AFTERNOON, 2 TO 5.

Examiner,.....REV. GEORGE CORNISH, LL.D.

(A) Translate into Greek :—

1. The general happened to be present; had he not, the heavy-armed infantry of the enemy would have entered the town without being discovered.

2. Having said these things they took their departure; when this had been said they took their departure.

3. Socrates was not a character to do anything for the mere sake of pleasing men or of getting gain for himself.

4. He said that he did not know how in the world the generals had managed to escape from the guards set over them.

5. Had not the messenger arrived, the ships would have been lost at sea crews and all.

(B) Translate into Latin:—

In all affairs he was a man of singular prudence and diligence. He was a clever farmer, a skilful lawyer, a great general, an approved orator, and a fond lover of literature. Though he began the study of it late in life, yet so much progress did he make that one would not readily find a matter, either in Greek or Italian history, which was unknown to him. From his youth he composed speeches. In his old age he set to work to write history, and finished seven books. One would scarcely believe the extent of his endurance of toil. Although by no means of robust constitution, he bore with indomitable spirit the hardships of a tedious and protracted march as cheerfully as the meanest private. No wonder, then, that the soldiers flocked to his standard with delight, and went on service with a determination to follow him through all dangers and obstacles to the accomplishment of his plans. He was the stanch champion of equal rights and liberty; and, forgetful of his own interest, he served his country with a zeal and abnegation of self that won for him not merely the admiration of the men of his time but also of posterity.

ANCIENT HISTORY.

WEDNESDAY, SEPTEMBER 24TH:—AFTERNOON, 2 TO 5.

Examiner,.....REV. GEORGE CORNISH, LL.D.

1. Enumerate the nations that successively in ancient times held the supremacy, previous to the time of Cyrus the Elder.

2. (*a*) Write an account of the capture of Babylon by Cyrus. (*b*) Name three of the kings that reigned during the second period of the Babylonian empire. (*c*) Note the progress of the Babylonians in arts, science, and commerce, citing passages from the Old Testament.

3. (*a*) Define the geographical position of Phœnicia, and name the chief cities. (*b*) Give an account of the colonisation and commercial enterprise of the Phœnicians.

4. (*a*) Define the ethnological relationship and the original home of the Persians. (*b*) Sketch the governmental and military systems, and trace the growth of the empire. (*c*) To what causes may the failure to subjugate Greece be assigned?

5. Describe the geographical characteristics of Hellas, and point out their importance and value, and also their disadvantages, as regards the foreign and internal relations of the country.

6. (*a*) What causes led to the spread of the Greeks over distant lands? (*b*) distinguish between ἀποικίαι and κληρουχίαι. Can you point out any modern resemblances to these?

7. Sketch the personal character, and political aims and policy of Pericles.

8. Enumerate the principal races that inhabited ancient Italy, with a note on the Etruscans.

9. (*a*) What facts connected with the early government of Rome may be inferred from the legends. (*b*) Derive and define the term *Plebs*. (*c*) What classes were comprised in the Plebs at Rome.

10. Who were the members of the First and Second Triumvirates, severally?

FRENCH.

Examiner, ...P. J. DAREY, M.A., B.C.L.

1. Qu'est-ce que Molière attaque dans la comédie des *Femmes savantes?*

2. Dans quelles autres comédies avait-il déjà attaqué le même ridicule?

3. Dans quelle société ce travers s'était-il développé? Faites connaître cette société.

4. Traduisez en anglais :—

Trissotin. Je viens (1) vous annoncer une grande nouvelle
Nous l'avons, en dormant, madame, échappé belle.
Un monde près de nous a passé tout du long,
Est chu tout au travers de notre tourbillon;
Et s'il eût en chemin rencontré notre terre
Elle eût été brisée en morceaux comme du verre.

Femmes savantes, A. IV., S. III.

(1) Write one person of all the simple tenses of *je viens*.

5. Quel est le sujet de la pièce de Racine *Britannicus?*

6. Qui était *Britannicus?* Quel droit avait-il à être empereur? Racontez en détail comment il s'en était vu frustré, et comment Néron l'avait supplanté. Quels étaient les droits de Néron au trône? Quel auteur célèbre Racine a-t-il suivi dans la composition de cette tragédie?

7. Traduisez en anglais les extraits suivants pris de *Britannicus*.

Quelques titres nouveaux que Rome lui défère,
Il n'en reçoit point qu'il ne donne à sa mère.
Ne saurait-il (l'empereur) rien voir qu'il n'emprunte vos yeux ?
Sur le moindre discours qu'on pourra vous redire
Serez-vous toujours prête à partager l'empire ?
Vous craindrez-vous sans cesse, et vos embrassements
Ne se passeront-ils qu'en éclaircissements ?
Ah ! quittez d'un censeur la triste diligence ;
D'une mère facile affectez l'indulgence ;
Souffrez quelques froideurs sans les faire éclater
Et n'avertissez point la cour de vous quitter.

8. Expliquez pourquoi il faut employer le subjonctif dans les phrases suivantes :

Je veux que vous écriviez. Pensez-vous qu'ils eussent mieux réussi que vous ? Je ne croirai jamais qu'il fasse cela.

Expliquez la différence qu'il y a entre les phrases :

Croyez-vous qu'il *pleut ?* et croyez-vous qu'il *pleuve ?* Quelles prépositions les verbes *offrir* et *s'offrir ; refuser* et *se refuser ?* demandent-ils ?

Traduisez les phrases suivantes et expliquez comment il faut écrire les participes qu'elles contiennent : Your house is larger than I would have thought. Those ladies have written letters to one another every week. This is a fine tragedy ; did you ever see it play. My brothers have read the books which you have lent them, and spent the dollars which you gave them.

9. Nommez huit auteurs français du XVIme siècle, et dites en quel genre de littérature chacun de ces auteurs s'est illustré.

10. Traduisez en français :—

The Normans were then the foremost race of Christendom. Their valour and ferocity had made them conspicuous among the rovers whom Scandinavia had sent forth to ravage Western Europe. Their sails were long the terror of both coasts of the channel. Their arms were repeatedly carried far into the heart of the Carlovingian Empire. At length one of the feeble heirs of Charlemagne ceded to the strangers a fertile province, watered by a noble river, and contiguous to the sea, which was their favourite element. In that province they founded a mighty state, which gradually extended its influence over the neighbouring principality of Britanny and Maine. Without laying aside that dauntless valour, which had been the terror of every land from the Elbe to the Pyrenees, the Normans rapidly acquired all, and more than all, the knowledge and refinement which they found in the country where they settled.

MACAULAY, *History of England.*

ENGLISH LITERATURE.

Milton: *Paradise Lost, Bks I and II;* Trench: *Study of Words.*

THURSDAY, SEPT. 25:—2 TO 5 P.M.

1. Name the fallen angels who spoke to the council in Pandæmonium and state, in Milton's language when you can, the leading opinion expressed by each.

2. Give Milton's description of Satan and his arms.

3. What passed between Satan, Sin and Death at Hell-gate?

4. Draw or describe Milton's notion of the Universe.

5. Explain the following words:—*mortal* taste; *secret* top; *adamantine* chains; *baleful* eyes; *utter* darkness; weltring; *afflicted* powers; *sublimed* with mineral fury; sovran; lie thus *astonisht; gently* raised their fainting courage, firm and *unmoved;* War open or *understood.*

Notice classical constructions in Paradise Lost.

(The paper on Trench is the same as that set for the Second Year Scholarships.)

MATHEMATICAL SCHOLARSHIP.

ANALYTIC GEOMETRY (*First Paper*).

WEDNESDAY, SEPTEMBER 24TH: — MORNING, 9 TO 12.

Examiner,.....ALEXANDER JOHNSON, LL.D.

1. If $S = 0$ be the equation of a conic, and $-a = 0$ the equation of a straight line, interpret the equation $S - k a^2 = 0$, k being a constant.

2. Employing the equation of a conic referred to two tangents $L = 0$, $M = 0$, and their chord of contact $R = 0$, find the envelope of the base of an inscribed triangle, whose two sides pass through fixed points.

3. Find the equations of two conics having a contact of the third order, taking the common tangent and normal as axes.

4. A conic being given by the general equation, find the condition that the pole of the axis of x should lie on the axis of y, and *vice-versa.*

5. Find the locus of the intersection of tangents at the extremities of conjugate diameters of an ellipse.

6. Find the locus of the middle points of chords, parallel to a given line, of a conic given by the general equation.

7. The equation of the circle circumscribing the triangle formed by the lines $\alpha = 0, \beta = 0, \gamma = 0$ is

$$\beta\gamma \sin A + \gamma\alpha \sin B + \alpha\beta \sin C = 0.$$

8. The lines joining the corresponding vertices of a triangle and its conjugate with regard to a circle meet in a point.

9. Find the locus of the middle points of chords of a given circle drawn parallel to a given line.

10. Find the anharmonic ratio of the pencil given by $\alpha = 0, \beta = 0$ $\alpha - k\beta = 0, \alpha - k', \beta = 0$.

11. A line is drawn parallel to the base of a triangle and its extremities joined transversely to those of the base; find the locus of the point of intersection of the joining lines.

12. If through a fixed point O any chord of a circle be drawn, and OQ be taken an arithmetic mean between the segments; find the locus of the point Q.

ANALYTIC GEOMETRY (*Second Paper*).

WEDNESDAY, SEPTEMBER 24TH: — AFTERNOON, 2 TO 5.

Examiner,.....ALEXANDER JOHNSON, LL.D.

1. Find the condition that $\lambda x + \mu y = 1$ may touch $\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$.

2. Find the equation, referred to the axes, of the diameter conjugate to that passing through any point $x'y'$ on an ellipse.

3. If through a given point on a conic any two lines at right angles to each other be drawn to meet the curve, the line joining their extremities will pass through a fixed point on the normal.

4. In the ellipse the rectangle under the focal radii to any point on the curve $= b'^2$.

5. In the hyperbola the perpendicular from the focus on the asymptote is equal to the conjugate semi-axis b.

6. The locus of the extremity of the perpendicular from the focus on the tangent to a parabola is a right line.

7. Find the locus of the centre of a circle which makes given intercepts on two given lines.

8. Find the equation of the polar of $x' y'$ with regard to the curve $a x^2 + 2 h x y + b y^2 + 2 g x + 2 f y + c = 0$.

9. Find the tangents from the origin to

$$x^2 + y^2 - 6 x - 2 y + 8 = 0.$$

10. If the co-efficients in the equation $Ax + By + C = 0$ be connected by the relation $aA + bB + cC = 0$ (where a, b, c are constant and A, B, C may vary) the line represented by this equation will always pass through a fixed point.

11. Find the equation of the line joining the origin to the intersection of $Ax + By + C = O$, $A'x + B'y + C' = 0$.

12. Express the area of a polygon in terms of the co-ordinates of its angular points.

CALCULUS.

FRIDAY, SEPTEMBER 26TH: —MORNING, 9 TO 12.

Examiner,..... .....ALEXANDER JOHNSON, LL.D.

1. Show that the length of the parabola $y^2 = 2 m x$ is

$$s = \frac{y\sqrt{y^2 + m^2}}{2 m} + \frac{m}{2} \log \left(\frac{y + \sqrt{y^2 + m^2}}{m} \right).$$

2. Prove that the area of any focal sector of an ellipse can be expressed in terms of the focal distances of its extremities, of the chord which joins them, and of the axes of the curve.

3. Show that the entire area of the Lemniscate $r^2 = a^2 \cos 2\theta$ is a^2.

4. Find the whole area of the curve $a^2 y^2 = x^3 (2a - x)$.

5. If $F(x, a) = \int \phi(x, a)\, dx$, prove

$$\int F(x, a)\, da = \int \left[\int \phi(x, a)\, da \right]$$

6. Investigate two ways in which the expression $\frac{f(x)}{\phi x} \frac{dx}{\sqrt{a+2bx+cx^2}}$ can be made rational.

7. Find the integrals

$$\int \frac{(x^2-1)dx}{x\sqrt{1+x^4}}, \int \frac{\cos^4\theta\, d\theta}{\sin^3\theta}, \int \frac{dx}{(1+x^3)^{\frac{4}{3}}}.$$

8. Find the integrals

$$\int \frac{\sin^3\theta\, d\theta}{\cos^5\theta}, \int \frac{(2x-5)\,dx}{(x+3)(x+1)^2}, \int \frac{dx}{1+x^2}, \int \frac{(x-1)\,dx}{(x-3)(x+2)}.$$

9. Find the radius of curvature at any point of the parabola $x^2 = 4my$.

10. If the equation of a curve be $f(x, y) = u$ or $u = 0$ prove that the equation of the tangent at $x^1 y^1$,

$$(x^1 - x)\left(\frac{du}{dx}\right)^1 + (y^1 - y)\left(\frac{du}{dy}\right)^1 = 0.$$

11. Find the values of x which make the expression

$$2x^3 - 21x^2 + 36x - 20$$

a maximum or a minimum; find the maximum and minimum.

12. When $x = 0$, find value of $\frac{(x + \sin 2x - 6\sin\frac{x}{2})^2}{4 + \cos x - 5\cos\frac{x}{2}}$.

13. Find by MacLaurin's Theorem, the first three terms in the expansion of tan x.

14. Expand sin $(x+y)$ by Taylor's Theorem.

HIGHER ALGEBRA—THEORY OF EQUATIONS—TRIGONOMETRY.

FRIDAY, SEPTEMBER 26TH:—AFTERNOON, 2 TO 5.

Examiner,.....ALEXANDER JOHNSON, LL.D.

1. Show that the determinant

$$\begin{vmatrix} 1, & 1, & 1, & 1, & \&c. \\ a, & \beta, & \gamma, & \delta, & \&c. \\ a2, & \beta 2, & \gamma, & \delta, & \&c. \\ \cdots & \cdots & \cdots & \cdots & \\ a^{n-1}, & \beta^{n-1}, & \gamma^{n-1}, & \delta^{n-1}, & \&c. \end{vmatrix}$$

$$\text{is} = \pm (a-\beta)(a-\gamma)(a-\delta)\ \&c. \times (\beta-\gamma)(\beta-\delta)(\gamma-\delta)\ \&c.$$

2. Hence express the product of the squares of the differences of the roots of an equation.

3. Calculate the determinant

$$\begin{vmatrix} 25, & -15, & 23, & -5 \\ -15, & -10, & 19, & 5 \\ 23, & 19, & -15, & 9 \\ -5, & 5, & 9, & -5 \end{vmatrix}$$

4. If the constituents in one row or column of a determinant differ only by a constant multiplier from those in another row or column, the determinant vanishes

5. Solve the equation $x^4 + 4x^3 + 3x^2 - 44x - 84x = 0$.

6. Solve the equation $x^3 - 15x^2 - 33x + 847 = 0$.

7. Solve the equation $x^8 - 1 = 0$.

8. The roots of the equation $x^3 - 9x^2 + 23x - 15 = 0$ are in Arithmetical Progression; find them.

9. Find by Newton's method limits to the roots of the equation $x^4 - x^3 - 5x^2 + 8x - 9 = 0$.

10. The equation $x^4 - 7x^3 + 13x^2 + 3x - 18 = 0$ has equal roots, solve it.

11. Sum n terms of the series

$$\tan a + 2 \tan 2a + 2^2 \tan 2^2 a + \&c.$$

12. In a spherical triangle prove

$$\sin C \cot A = \cot a \sin b - \cos b \cos C.$$

13. On the sphere, the sides and angles of the polar triangle are the supplements of the angles and sides respectively of the primitive triangle.

14. Prove $\log_e u = 2\left\{\frac{u-1}{u+1} + \frac{1}{3}\left(\frac{u-1}{u+1}\right)^3 + \frac{1}{5}\left(\frac{u-1}{u+1}\right)^5 + \&c.\right\}$

FIRST YEAR EXHIBITIONS.

GREEK.

TUESDAY, SEPTEMBER 23rd :—MORNING, 9 TO 12.

Examiner,.....REV. GEORGE CORNISH, LLD.

1. Translate :—Homer, Iliad, Bk. IV. :—

(A) Εἴπερ γὰρ φθονέω τε καὶ οὐκ εἰῶ διαπέρσαι,
οὐκ ἀνύω φθονέουσ', ἐπειὴ πολὺ φέρτερός ἐσσι.
ἀλλὰ χρὴ καὶ ἐμὸν θέμεναι πόνον οὐκ ἀτέλεστον·
καὶ γὰρ ἐγὼ θεός εἰμι, γένος δ' ἐμοὶ ἔνθεν ὄθεν σοὶ,
καί με πρεσβυτάτην τέκετο Κρόνος ἀγκυλομήτης,
ἀμφότερον, γενεῇ τε καὶ οὕνεκα σὴ παράκοιτις
κέκλημαι, σὺ δὲ πᾶσι μετ' ἀθανάτοισιν ἀνάσσεις.
ἀλλ' ἤτοι μὲν ταῦθ' ὑποείξομεν ἀλλήλοισιν,
σοὶ μὲν ἐγὼ, σὺ δ' ἐμοί· ἐπὶ δ' ἕψονται θεοὶ ἄλλοι
ἀθάνατοι. σὺ δὲ θᾶσσον Ἀθηναίη ἐπιτεῖλαι
ἐλθεῖν ἐς Τρώων καὶ Ἀχαιῶν φύλοπιν αἰνὴν,
πειρᾶν δ' ὡς κε Τρῶες ὑπερκύδαντας Ἀχαιοὺς
ἄρξωσι πρότεροι ὑπὲρ ὅρκια δηλήσασθαι.

(B) „Ὦ νιὲ Πετεῶο, διοτρεφέος βασιλῆος,
καὶ σὺ, κακοῖσι δόλοισι κεκασμένε, κερδαλεόφρον,
τίπτε καταπτώσσοντες ἀφέστατε, μίμνετε δ' ἄλλους ;
σφῶϊν μέν τ' ἐπέοικε μετὰ πρώτοισιν ἐόντας
ἑστάμεν ἠδὲ μάχης καυστείρης ἀντιβολῆσαι.
πρώτω γὰρ καὶ δαιτὸς ἀκουάζεσθον ἐμεῖο,
ὁππότε δαῖτα γέρουσιν ἐφοπλίζωμεν Ἀχαιοί.
ἐνθα φίλ' ὀπταλέα κρέα ἔδμεναι ἠδὲ κύπελλα
οἶνον πινέμεναι μελιηδέος, ὄφρ' ἐθέλητον.
νῦν δὲ φίλως χ' ὁρόῳτε καὶ εἰ δέκα πύργοι Ἀχαιῶν
ὑμείων προπάροιθε μαχοίατο νηλεῖ χαλκῷ.

2. (*a*) Point out Epic forms in the above extracts and give the equivalent forms in Attic. (*b*) Give the name and scale of the metre, and scan the last four verses of ext. (A) noting any metrical peculiarities. (*c*) Write a note on the Digramma.

3. (*a*) Give as accurately as you can the meaning and derivation of the following epithets :—Βοῶπις, ἀγκυλομήτης, ἀμύμων, ἀβλῆτα, ἀγελείη, παναίολος. (*b*) Derive, and give the meaning of the following :—τέττα, ὑήστωρες, δαΐφρονα, ἰόμωροι, ἐλατῆρι, ἔρισμα.

5. Translate, Xenophon, Anabasis, Book II. :—

(C) Οἱ μὲν δὴ στρατηγοὶ οὕτω ληφθέντες ἀνήχθησαν ὡς βασιλέα, καὶ ἀποτμηθέντες τὰς κεφαλὰς ἐτελεύτησαν. εἷς μὲν αὐτῶν Κλέαρχος ὁμολογουμένως ἐκ πάντων τῶν ἐμπείρως αὐτοῦ ἐχόντων δόξας γενέσθαι ἀνὴρ καὶ πολεμικὸς καὶ φιλοπόλεμος ἐσχάτως. Καὶ γὰρ δὴ ἕως μὲν πόλεμος ἦν τοῖς Λακεδαιμονίοις πρὸς τοὺς Ἀθηναίους παρέμεινεν. ἐπεὶ δ' εἰρήνη ἐγένετο, πείσας τὴν αὐτοῦ πόλιν ὡς οἱ Θρᾷκες ἀδικοῦσι τοὺς Ἕλληνας καὶ διαπραξάμενος ὡς ἐδυνατο παρὰ τῶν Ἐφόρων ἐξέπλει ὡς πολεμήσων τοῖς ὑπὲρ Χερρονήσου καὶ Πειρίνθου Θρᾳξίν. Ἐπεὶ δὲ μεταγνόντες πως οἱ Ἔφοροι ἤδη ἔξω ὄντος αὐτοῦ ἀποστρέφειν αὐτὸν ἐπειρῶντο ἐξ Ἰσθμοῦ, ἐνταῦθα οὐκέτι πείθεται, ἀλλ' ᾤχετο πλέων εἰς Ἑλλήσποντον. Ἐκ τούτου καὶ ἐθανατώθη ὑπὸ τῶν ἐν τῇ Σπάρτῃ τελῶν ὡς ἀπειθῶν. Ἤδη δὲ φυγὰς ὢν ἔρχεται πρὸς Κῦρον, καὶ ὁποίοις μὲν λόγοις ἔπεισε Κῦρον ἄλλη γέγραπται. δίδωσι δ' αὐτῷ Κῦρος μυρίους δαρεικούς· ὁ δὲ λαβὼν, οὐκ ἐπὶ ῥᾳθυμίαν ἐτράπετο, ἀλλ' ἀπὸ τούτων τῶν χρημάτων συλλέξας στράτευμα ἐπολέμει τοῖς Θρᾳξί· καὶ μάχῃ τε ἐνίκησε καὶ ἀπὸ τούτου δὴ ἔφερε καὶ ἦγεν αὐτούς· καὶ πολεμῶν διεγένετο, μέχρι Κῦρος ἐδεήθη τοῦ στρατεύματος· τότε δ' ἀπῆλθεν ὡς σὺν ἐκείνῳ αὖ πολεμήσων.

5. (*a*) Οὗτοι ἔλεγον ὅτι Κῦρος μὲν τέθνηκεν, Ἀριαῖος δέ πεφευγὼς εἴη :—Translate, and explain the change of mood in the dependent clauses. (*b*) Translate the following—(1) ἔτυχε γὰρ θυόμενος. (2) ἰσθι μεντοι ἀνόητος ὤν·—Explain the Nom. ἀνόητος. (3) Distinguish the meaning of ἀποδρᾶναι and ἀποφυγεῖν. (4) Write a note on the various uses of the particle ὡς in ext. (C).

6. Translate, Demosthenes Olynthiacs I. & II. :—

(D) Τί οὖν, τὶς ἂν εἴποι, ταῦτα λέγεις ἡμῖν νῦν ; ἵνα γνῶτε, ὦ ἄνδρες Ἀθηναῖοι, καὶ αἴσθησθε ἀμφότερα, καὶ τὸ προῖεσθαι καθ' ἕκαστον ἀεί τι τῶν πραγμάτων ὡς ἀλυσιτελὲς, καὶ τὴν φιλοπραγμοσύνην ἣ χρῆται καὶ συζῇ Φίλιππος, ὑφ' ἧς οὐκ ἔστιν ὅπως ἀγαπήσας τοῖς πεπραγμένοις ἡσυχίαν σχήσει. εἰ δ' ὁ μὲν, ὡς ἀεί τι μεῖζον τῶν ὑπαρχόντων δεῖ πράττειν, ἐγνωκὼς ἔσται, ὑμεῖς δὲ, ὡς οὐδενὸς ἀντιληπτέον ἐῤῥωμένως τῶν πραγμάτων, σκοπεῖσθε εἰς τί ποτ' ἐλπὶς ταῦτα τελευτῆσαι. πρὸς θεῶν, τίς οὕτως εὐήθης ἐστὶν ὑμῶν, ὅστις ἀγνοεῖ τὸν ἐκεῖθεν πόλεμον δεῦρο ἥξοντα, ἂν ἀμελήσωμεν ; ἀλλὰ μὴν εἰ τοῦτο γενήσεται, δέδοικα, ὦ ἄνδρες Ἀθηναῖοι, μὴ τὸν αὐτὸν τρόπον, ὥσπερ οἱ δανειζόμενοι, ῥᾳδίως ἐπὶ τοῖς μεγάλοις τόκοις μικρὸν εὐπορήσαντες χρόνον ὕστερον καὶ τῶν ἀρχαίων ἀπέστησαν, οὕτω καὶ ἡμεῖς ἂν ἐπὶ πολλῷ φανῶμεν ἐῤῥᾳθυμηκότες, καὶ ἅπαντα πρὸς ἡδονὴν ζητοῦντες, πολλὰ καὶ χαλεπὰ ὧν οὐκ ἠβουλόμεθα ὕστερον εἰς ἀνάγκην ἐλθωμεν ποιεῖν, καὶ κινδυνεύσωμεν περὶ τῶν ἐν αὐτῇ τῇ χώρᾳ.

(E) Φημὶ δὴ δεῖν ὑμᾶς ἅμα τοῖς μὲν Ὀλυνθίοις βοηθεῖν, (καὶ ὅπως τις λέγει κάλλιστα καὶ τάχιστα οὕτως ἀρέσκει μοι,) πρὸς δὲ Θετταλοὺς πρεσβείαν πέμ-

πιν, ἡ τοὺς μὲν διδάξει ταῦτα τοὺς δὲ παροξυνεῖ. καὶ γὰρ νῦν εἰσὶν ἐψηφισμένοι Πεγασὰς ἀπαιτεῖν, καὶ περὶ Μαγνησίας λόγους ποιεῖσθαι. σκοπεῖσθε μέντοι τοῦτο ὦ ἄνδρες Ἀθηναῖοι, ὅπως μὴ λόγους ἐροῦσι μόνοι οἱ παρ' ἡμῶν πρέσβεις, ἀλλὰ καὶ ἔργον τι δεικνύειν ἐξουσιν, ἐξεληλυθότων ἡμῶν ἀξίως τῆς πόλεως, καὶ ὄντων ἐπὶ τοῖς πράγμασιν· ὡς ἅπας μὲν λόγος, ἂν ἀπῇ τὰ πράγματα, μάταιόν τι φαίνεται καὶ κενόν, μάλιστα δὲ ὁ παρὰ τῆς ἡμετέρας πόλεως. ὅσῳ γὰρ ἑτοιμότατ' αὐτῷ δοκοῦμεν χρῆσθαι, τοσούτῳ μᾶλλον ἀπιστοῦσι παντες αἰτῷ. πολλὴν δὴ τὴν μετάστασιν καὶ μεγάλην δεικτέον τὴν μεταβολήν, εἰσφέροντας, ἐξιόντας, ἅπαντα ποιοῦντας ἑτοίμως, εἴπερ τις ὑμῖν προσέξει τὸν νοῦν.

7. Write short explanatory notes on :—(1) εὐθυνναι ῥᾴδιαι. (2) ἐν ἡλικίᾳ, (3) εἰσφέροντας, (4) ἀνεχαίτισε, (5) πεφενάκικεν, (6) λειτουργίαι, (7) ὧτᾶν, (8) τὴν μετάστασιν—τὴν μεταβολήν, (9) ὑποστείλεσθαι, (10) πεξέταιροι. (11) δανειζόμεναι—ἀπέστησαν (Ext. (D) :—what tenses, and why ?

8. Parse the following words, noting any peculiarities :—συστῆ, ἀτμενοι, ἠξίωθη. σώφροσιν, πεπονθέναι, ἀπολωλεκέναι, ὑπηργμένων, ἥτε απηλλιγμένοι, βάν, ἐσαν.

9. Why are these speeches called Olynthiacs? When were delivered.

LATIN.

TUESDAY, SEPTEMBER 23RD :—AFTERNOON, 2 TO 5.

Examiner,..... .....REV. GEORGE CORNISH, LL.D.

1. Translate, Virgil, Æneid Bk. V. :—(A) vss. 58-71 : and (B) vss. 273-285.

2. (*a*) Write down the name and scale of the metre of the above extracts. (*b*) Scan the last five verses of ext. (B). (*c*) What peculiarity do you note in *datur*, vs. 284, and how do you explain it ?

3. Translate :— (1) Medium iter certus tenebat. (2) Colligere arma jubet. (3) Aevi maturus. (4) In nubem cogitur aer. (5) Subjiciunt veribus prunas. (6) Apricis statio gratissima mergis. (7) Voti reus. (8) Lentus carinas est vapor. (9) Una omnes fecere pedem.

4. Parse carefully the following words :—Olli, cinxerunt, transversa, litora, equidem, divom, retexerit, amplexus, comitante, fusi, promite, elapsus.

5. Translate, Cicero, Cato Major :—

(C) Quid, quod sapientissimus quisque *æquissimo animo* moritur, stultissimus iniquissimo? Nonne vobis videtur animus is, qui plus cernat et

longius, videre se ad meliora proficisci: ille autem, cujus obtusior *sit* acies, non videre? Equidem efferor studio patres vestros, quos colui et dilexi, *videndi*: neque vero eos solum convenire aveo, quos ipse cognovi; sed illos etiam, de quibus audivi, et legi, et ipse conscripsi. Quo quidem me proficiscentem haud sane quis facile *retraxerit* neque tamquam Peliam recoxerit. Quod si quis deus mihi largiatur, ut ex hac ætate *repuerascam* et in cunis vagiam, valde *recusem*. Nec vero *velim*, quasi decurso spatio, ad carceres a calce revocari. Quid enim habet vita *commodi?* quid non potius laboris? Sed habeat sane; habet certe tamen aut satietatem aut modum. Non libet enim mihi deplorare vitam, quod multi, et ii docti, sæpe fecerunt: neque me vixisse pœnitet, quoniam ita vixi, ut non frustra me natum existimem; et ex vita ita discedo, tamquam ex hospitio, non tamquam ex domo. Commorandi enim natura deversorium nobis, non habitandi locum dedit. O præclarum diem, quum ad illud divinum animorum concilium cœtumque proficiscar, quumque ex hac turba et colluvione discedam!

6. Construe the words in Italics in ext. (C).

7. Write short explanatory notes on the following references in this treatise:— Aemilius, Ahala, Ambivius, Brutus, Cethegus, Coloneus, Crotoniates, Democritus.

8. Give the derivation and meaning of:—Demens, deliratio, denique, domi, luna, manus, poculum, populus, senium, stadium.

9. Translate (D) Livy, Bk. IX., Chap. 5, down to *corpora hosti*.

10. Explain the following:—Lictor, cognomen, signiferos, pila, fetiales, sponsores, piacula, vallum, paludamenta, praetorium.

GRAMMAR AND COMPOSITION.

SEPTEMBER—:—AFTERNOON, 2 to 5.

Examiner,.....REV. GEORGE CORNISH, LL.D.

1. (*a*). Write down the *Gen.* and *Accus. Sing.*, and the *Dat. Plur.* of:—*θρίξ, γένος, πατρίς, πόλις, δνομα.* (*b*) Write in Attic Greek the equivalents of these Homeric forms:—*βασιλῆας, ποταμοῖο, πόδεσσιν, γαίης, εἰνῆφι,* (*c*) Point out the stems of:—*κόραξ, παῖς, ὄρνις, γυνή, ἀνήρ.*

2. (*a*) Decline:—*οἰκία, χώρα, πηγή, ἥρως, φάλαγξ.* (*b*) Decline in *Sing.* only:—*πᾶς λέων.* (*c*) In *Plur.* only:—*τὸ μέγα σῶμα.* (*d*) In all *Nos.*:—*ἡ σοφὴ γυνή.*

3. (*a*) Define the several classes of *Adjectives* in Greek. (*b*) Write down the terminations of the *Comparative* and *Superlative*. (*c*) Compare:— *γλυκύς, μέγας, σοφός, φίλος, σώφρων.*

4. (*a*) Distinguish between the *Root* and the *Stem* in verbs. (*b*.) Enumerate the *Tense-stems*, and name the Tenses formed from each. (*c*) Give the radical part of:—πείθω, τάσσω, τίκτω, τίθημι, ἵστημι, εἰμί (*d*) Parse the following verbs:—ἔπαθον, ἀγγεῖλον, εἶα, ὑπειλήφατε ἥσθοντο, ἠνέχθη..

5. (*a*) Give the *Nom. Sing.* of the following:—*eunte, seni, sapientum, paludum, genero, genere, marium.* (*b*) Decline in combination: *anceps beneficium, ille grex vagus.* (*c*) Write down the correlatives of:—*quam, quo, quum, quot, qualis, quantus.*

6. (*a*) Write down the *Pres. Infin.* of the following Participles:—*adeptus, ratus, satus, sertus, ventus, victus, vinctus, casus, caesus, cessus.* (*b*) Parse, giving the 1st Sing. of the principal parts:—*lavent, sustulerint, tutudissent, nixæ—erant, gavisi-sunt, sanxerunt, miscuissent, peperam.*

7. (*a*) Explain the etymology of *quin, quum, quominus, ut.* (*b*) Show the constructions these take. (*c*) Define the terms:—*Locative Case, Factitive Accusative, Ablative Absolute.* (*d*) What cases follow, severally, the following:—*dignus, utilis, expers, patiens, cupidus, similis?*

8. Translate into Latin:—

(A) 1. Scipio was said to be the greatest general of those times. 2. I am persuaded that he will not come, though he promised that he would come in order to see his father. 3. I hope that he will conquer all the enemies of the State, as well as of himself and house. 4 Tell me, do you mean to tarry here at Rome much longer or to start at once for Athens? 5. Solon feigned madness in order to benefit the State. 6. For there are philosophers who hold and teach that the gods have no care at all for the affairs of men.

EUCLID.

WEDNESDAY, SEPT. 24:—MORNING, 9 TO 12.

Examiner, ... ALEXANDER JOHNSON, LL.D.

1. Describe a circle about a given triangle. Show that if the triangle be obtuse-angled the centre falls outside the triangle.

2. On a given straight line construct a segment of a circle containing an angle equal to a given angle, (let it be acute).

a. Given the base, the vertical angle, and the length of the straight line drawn from the vertex to the middle point of the base, construct the triangle.

3. In equal circles, equal arcs are subtended by equal chords.

a. The straight lines in a circle which join the extremities of two parallel chords are equal.

4. If the opposite angles of a quadrilateral be together equal to two right angles, it can be inscribed in a circle.

5. If a straight line be divided into any two parts, the squares on the whole line and on one of the parts are equal to twice the rectangle contained by the whole and that part, together with the square on the other part.

6. If the square on one side of a triangle be equal to the sum of the squares on the other two sides, the angle opposite to it is a right angle; if less, the angle is acute; if greater, it is obtuse.

*7. Find a fourth proportional to three given straight lines.

*8. Similar triangles are in the duplicate ratio of their homologous sides.

* *Extra questions.*

ALGEBRA — ARITHMETIC.

WEDNESDAY, SEPT. 24:—AFTERNOON, 2 TO 5.

Examiner,.....ALEXANDER JOHNSON, LL.D.

1. Find the arithmetical, geometrical and harmonic means between 2 and $4\frac{1}{2}$.

2. The population of a country increases annually in geometrical progression, and in 4 years was raised from 10,000 to 14,641 souls; by what part of itself was it annually raised?

3. Find the limit to the sum of the series $1 - \frac{2}{5} + \frac{4}{25} -$ &c.

4. Find the sum of $4 - 3 - 10 -$ &c., to 50 terms.

5. Solve the equations:

(*a*) $\frac{4x+7}{19} + \frac{5-x}{3+x} = \frac{4}{9}$.

(*b*) $a + x + \sqrt{a^2 + bx + x^2} = b$.

(c) $\frac{a}{x} + \frac{b}{y} = \frac{1}{r}$; $\frac{a}{x} + \frac{c}{z} = \frac{1}{q}$; $\frac{b}{y} + \frac{c}{z} = \frac{1}{p}$.

(d) $\frac{11}{12x + 11} + \frac{5}{6x + 5} = \frac{7}{4x + 7}$.

6. The differences between the hypotenuse and the two sides of a right-angled triangle are 3 and 6 respectively; find the sides.

7. In a mixture of copper, lead and tin, the copper was 5 lbs. less than half the whole quantity, and the lead and tin each 5 lbs. more than a third of the remainder; find the respective quantities.

8. Find the continued product of $3\sqrt{8}$, $2\sqrt[3]{6}$ and $3\sqrt[4]{54}$.

9. The side of a square is one foot long, find the length of a diagonal.

10. Standard gold containing 11 parts of pure gold to one part of alloy, and 20 lbs. Troy, are coined into 934 sovereigns and a half-sovereign; find the weight of pure gold in a sovereign.

11. Reduce ·35678 to a vulgar fraction.

12. Reduce to its simplest form $\frac{\frac{4}{7} \text{ of } \frac{3}{8} \text{ of } (\frac{4}{5} - \frac{1}{5})}{2\frac{2}{3} + (\frac{2}{5} \times 1\frac{1}{2})}$.

ENGLISH GRAMMAR.

THURSDAY, SEPT. 25:—MORNING, 9 TO 12.

Examiner,..... .....CHAS. E. MOYSE, B.A.

1. Classify the letters of the English alphabet, and show in what respects that alphabet is both defective and redundant.

2. Show that the parts of speech express all simple notions, and that they combine those simple notions together.

3. In what way do modern English nouns form their plurals? What traces of older plurals still exist? Can you make a few historical notes on those older plurals? How do compound nouns form their plurals?

4. Classify the pronouns, with examples. Take any class with which you are best acquainted and make historical notes on it.

5. Define Strong and Weak verbs, and give an example of each. What do you understand by a Mixed verb?

6. Write the simple future tense of the Indicative mood of *love* in the Active voice. Illustrate as fully as you can the use of the auxiliaries *shall* and *will* in English. Give a list of auxiliary verbs and state the primary meaning of each. What verbs cannot take a passive construction?

7. Give the rule for the comparison of adjectives. Mention four adjectives that are "irregularly" compared.

8. What suffixes denote Abstract nouns? Can Abstract nouns take a plural form?

9. At what successive periods was a Latin element introduced into the English language?

10. Classify these conjunctions; *but, and, either, if, for, that.* What do you know of the history of *but* and *that?*

11. What is meant by Case? What traces of Case still exist?

12. Take the sentence *The sad man must needs go*, and expand the adjective and the adverb into clauses. What kind of sentence is the result?

13. Correct or justify the following passages, giving your reason in each case:—

(*a*) The land is divided into shires and the shires placed under sheriffs.

(*b*) Whence all but he had fled.

(*c*) Let every one look to themselves.

(*d*) I am one of those who cannot describe wathI do not see.

(*e*) That is true of any book that has, is, or shall be published.

(*f*) What is the reason that our language is less refined than those of Italy, Spain or France?

(*g*) Sailing up the river, the whole town may be seen.

(*h*) It makes us to walk warily.

(*i*) That is either a man or a woman's voice.

(*j*) Some persons can only distinguish black, white and grey.

(*k*) He or you are wrong.

14. Analyse:—

Reader, if thou meetest one of these small gentry in thy early rambles, it is good to give him a penny.

SECOND YEAR EXHIBITIONS.

(You are required to answer questions 1, 2, 3, 4, 6, 8, 9, 10, 11, 12, 13 and 14 of the preceding set and also the following :)—

15. What is a diphthong? What diphthongs exist in English?

16. Give the masculine of duck, wife, queen, lady, and the feminine of son, uncle, earl. Also give the etymology of the nouns in your answer.

17. Explain Grimm's law, briefly but clearly, and with examples.

18. Show the origin and the use of the Genundial Infinitive.

ENGLISH LITERATURE.—Shakespeare, *Julius Cæsar.*

THURSDAY, SEPTEMBER 25TH :—AFTERNOON, 2 TO 5.

Examiner,.....CHAS. E. MOYSE, B.A.

1. From what book did Shakespeare take the play of Julius Cæsar? At what dates did the important events of the play happen?

2. (*a*) In what way does Cassius compare Cæsar to a Colossus? (*b*) Give Cæsar's estimate of the character of Cassius. (*c*) What portents did Casca see, and to whom did he give an account of them? (*d*) What reflections did Brutus make on the letter which Lucius brought to him? (*e*) How did Cæsar reply to the petition of Cassius for the enfranchisement of Pub lius Cimber? The meaning of enfranchisement? (*f*) Notice the main points of Antony's speech to the Romans. (*g*) What did Cæsar's ghost say to Brutus? (*h*) Arrange on their respective sides the characters that Shakespeare mentions as taking part in the battle of Philippi, and, when possible, add a note, saying what each did there.

3. Explain the peculiarities of the following passages and italicized words :—

(*a*) You ought not walk. (*b*) Farewell to you ; and you ; and *you*, Volumnius—Farewell to *thee*, too, Strato. (*c*) As *proper* men as ever trod (*d*) I had as lief. (*e*) With hearts of *controversy*. (*f*) And that same eye. Did lose *his* lustre. (*g*) And foamed *at mouth*. (*h*) Why old men fool and children calculate :—Can you give other readings, and say which is the best and why? (*i*) No *fleering* tell-tale. (*j*) The complexion of the *element*. (*k*) The ides of March. (*l*) The Genius and the mortal instruments. (*m*) *Insuppressive* mettle. (*n*) Casca, be sudden, for we fear *prevention*. (*o*) *Censure* me in your wisdom. (*p*) On the Lupercal. (*q*) For Brutus—was Cæsar's angel. (*r*) One that feeds on abjects, orts and imitations. (*s*) Poor *knave*. I blame thee not. (*t*) And (they) come down with *fearful bravery*.

4. What peculiarities have you noticed in Shakespeare's syntax ?

Composition. Give your opinion of the character of Brutus or of Cæsar, *or*, Give an account of a journey by rail.

(You must not write less than half a page nor more than a whole one.)

SECOND YEAR EXHIBITIONS.

GREEK.

TUESDAY, SEPTEMBER 23rd;—MORNING, 9 TO 12.

Examiner,.....REV. GEORGE CORNISH, LL.D.

1. Translate :—(A) Herodotus, Bk. III., Chap. 25.

2. Translate the following extt., adding an explanatory note of construction or meaning where you deem it necessary :—(*a*) *μέχρι Σερβωνίδας λίμνης, παρ' ἣν δὴ τὸ Κάσιον ὄρος τείνει ἐς θάλασσαν* (*c.* 5). (*b*) *καὶ ἔπειτα λαβὼν ἐκ τοῦ ἱματίου * * * λίθους ἑπτά* (*c.* 8). (*c*) *κείρονται δὲ περιτρόχαλα, περιξυροῦντες τοὺς κροτάφους* (*ib.*) (note similar customs to (*b*) and (*c*) in the Old Test.) (*d*) *ἐκείνους μέντοι τοὺς περιποιήσαντας οὐ καταπροΐξεσθαι, ἀλλ' ἀποκτεινέειν* (36).

3. Write a sketch of the life of Herodotus, and characterise his style. (*b*) Give the import of the particles *καὶ δὴ. καὶ δὴ καί. οὕτω δή.*

4. Translate :—(B) Xenophon, Hellenics, Bk. I. chap. 7, §§ 9—11

Ἐντεῦθεν ἐκκλησίαν ἐποιουν, εἰς ἣν ἡ βουλὴ εἰσήνεγκε τὴν ἑαυτῆς γνώμην Καλλιξένου εἰπόντος τήνδε· Ἐπειδὴ τῶν τε κατηγορούντων κατὰ τῶν στρατηγῶν καὶ ἐκείνων ἀπολογουμένων ἐν τῇ προτέρᾳ ἐκκλησίᾳ ἀκηκόασι, διαψηφίσασθαι Ἀθηναίους ἅπαντας κατὰ φυλάς· θεῖναι δὲ εἰς τὴν φυλὴν ἑκάστην δύο ὑδρίας· ἐφ' ἑκάστῃ δὲ τῇ φυλῇ κήρυκα κηρύττειν, ὅτῳ δοκοῦσιν ἀδικεῖν οἱ στρατηγοὶ οὐκ ἀνελόμενοι τοὺς νικήσαντας ἐν τῇ ναυμαχίᾳ, εἰς τὴν προτέραν ψηφίσασθαι, ὅτῳ δὴ μή, εἰς τὴν ὑστέραν· ἂν δὲ δόξωσιν ἀδικεῖν θανάτῳ ζημιῶσαι καὶ τοῖς ἐνδεκα παραδοῦναι καὶ τὰ χρήματα δημοσιεῦσαι, τὸ δ' ἐπιδέκατον τῆς θεοῦ εἶναι. παρῆλθε δέ τις εἰς τὴν ἐκκλησίαν φάσκων ἐπὶ τεύχους ἀλφίτων σωθῆναι· ἐπιστέλλειν δ' αὐτῷ τοὺς ἀπολλυμένους, ἐὰν σωθῇ, ἀπαγγεῖλαι τῷ ζήμῳ ὅτι οἱ στρατηγοὶ οὐκ ἀνείλοντο τοὺς ἀρίστους ὑπὲρ τῆς πατρίδος γενομένους. τὸν δὲ Καλλίξενον προσεκαλέσαντο παράνομα φάσκοντες γεγραφέναι Εὐρυπτόλεμός τε ὁ Πεισιάνακτος καὶ ἄλλοι τινές. τοῦ δὲ δήμου ἐνιοι ταῦτα ἐπῄνουν, τὸ δὲ πλῆθος ἐβόα δεινὸν εἶναι εἰ μή τις ἐάσει τὸν δῆμον πράττειν ὃ ἂν βούλεται.

5. (*a*) Write short explanatory notes on :—(1)*ἐκκλησίαν ἐποίουν.* (2) *ἡ βουλὴ εἰσήνεγκε τὴν ἑαυτῆς γνώμην.* (3) *εἰς τὴν φυλὴν ἑκάστην.* (4) *τοὺς νικήσαντας ἐν τῇ ναυμαχίᾳ.* (5) *Ἀπατούρια.* (6) *προθήσειν τὴν διαψήφισιν.* (*b*) *παράνομα ξυγγεγραφέναι* :—In what respects were the proceedings against the generals unconstitutional ?

6. Translate :—Homer, Iliad Bk. XVIII. (C) vss. 65—77 ; and (D) vss. 550–560.

7. Give the derivation and exact meaning of the following words : —*ἐρίβωλον, ἐπισχερώ, θαμεῖαι, πότνια, ἠῆος* (distinguish from *ἐοῖο*), *ἀεκήλια, τέμενος, ἔριθοι, ὀράγματα, ἔραζε, φρενήρης.*

8. Parse the following verbs, giving their principal parts :— *λίπε, ἴσαν, ῥήγνυτο, ἵκοντο, εὔχεο, ἀλήμεναι, ἐτίθη, ἐφέστασαν, ἔπραθον, ἐμπρῆσαι, ἐπελελοίπεε, ἀπείς.*

9. Name the dialects used in the extt. above given for translation, and point out their leading peculiarities severally. Assign to their several dialects the following, and give Attic eqnivalents :—*ποιήσειαν, πόλιος, ἀπολέει, μεζονος, ἐμειο, ἤδη, ἐζεο,ἀφίξεαι, κέν, τῶνδρες, νηός.*

10. Write down the name and scale of the metre, and scan the first five vss. of ext. (C).

LATIN.

TUESDAY, SEPTEMBER 23RD :—AFTERNOON, 2 TO 5.

Examiner,.....REV. GEORGE CORNISH, LL.D.

1. Translate :—(A) Virgil, Æneid, Bk. VIII., vss. 675—695.

2. Write short explanatory notes on the meaning of the following phrases in the above ext. :—(*a*) In medio. (*b*) Aeratas. (*c*) Marte. (*d*) Patrium sidus. (*e*) Arduus. (*f*) Litore rubro. (*g*) Nefas! (*h*) Nova caede.

3. Scan carefully the first five verses of ext. (A), and note any peculiarities.

4. Give the etymology and meaning of :—bicornis, apices, ancilia, larem, discinctos, caelatus, rostris, virgatis, pictis, asylum, argiletum, barathrum.

5. Parse the following verbs, giving the principal parts :—Repercussum, redeuntibus, delegere, subvectus, celebrabere, sterneret, egere, pepigi, suspensam, deprensum, insueta, detecta.

6. Translate :—(B) Horace, Odes, Bk. III., ode 30.

7. (*a*) Name the metre and scan the first four vss. of ext. (B). (*b*) Aquilo impotens, Libitinam, tacita virgine, Aeolium carmen :—explain these allusions. (*c*) Agrestium regnavit populorum :—explain the construction, and also of possit, in vs. 5.

8. Translate :—(C) Livy, Bk. XXII., Chap. 11.

9. (*a*) Explain the use of the subjunctive, severally, in the following :—*censerent*, *scriberet*, *nuntiaret*. (*b*) Show the construction of :—*Quibus legionibus*, *victori hosti*, *iis scriptis*, *Tibur*, *diem*, *dicto*, *ejus imperii*. (*c*) Comment on the following forms used by Livy :—*Exercitu*, *Ostia*, *duellis*, *faxit*. (*d*) *Bina* castra :—Why not *duo?* (*e*) Explain the meaning of :—Principes, antesignani, triarii.

10. Translate :—(D) Cicero, Select Letters :—

Saturnalilus mane se mihi Pindenissitae dediderunt, septimo et quinquagesimo die, postquam oppugnare eos coepimus 'Qui malum ! isti Pindenissitae ? qui sunt ? ' inquies ; ' nomen audivi numquam.' Quid ego faciam ? num potui Ciliciam Aetoliam aut Macedoniam reddere ? hoc iam sic habeto, nec hoc exercitu nec hic tanta negotia geri potuisse ; quae cognosce ἐν ἐπιτομῇ : sic enim concedis mihi proxumis litteris. Ephesum ut venerim, nosti, qui etiam mihi gratulatus es illius diei celebritatem, qua nihil me umquam delectavit magis. Inde oppidis iis, quae erant, mirabiliter accepti, Laodiceam pridie Kal. Sextiles venimus. Ibi morati biduum perillustres fuimus honorificisque verbis omnes iniurias revellimus superiores ; quod idem dein Apameae quinque dies morati et Synnadis triduum, Philomelii quinque dies, Iconii decem, fecimus. Nihil *ea iuris dictione* aequabilius, nihil lenius, nihil gravius. Inde in castra veni a. d. VII. Kalendas Septembres. a. d. III. *exercitum lustravi* apud Iconium. Ex his castris, cum graves de Parthis nuntii venirent, perrexi in Ciliciam per Cappadociae partem eam, quae Ciliciam attingit, eo consilio, ut Armenius Artavasdes et ipsi Parthi Cappadocia so excludi putarent.

11. (*a*) Explain the words printed in Italics in the above ext. (*b*) Express the dates here given according to the English method, and expand and explain the formulas. (*d*) On what occasion and at what date was this ext. written ?

HISTORY AND GRAMMAR.

SEPTEMBER 25TH : — AFTERNOON, 3 TO 5.

Examiner, ...REV. GEORGE CORNISH, LL.D.

(A) 1. What were the leading features of the *monarchical*, *oligarchical*, and *democratic* forms of government in the Hellenic States ? In what States were these, severally, best exemplified ?

2. The *seccessions* of the *Plebs* at Rome:—their causes, objects, and results.

3. By what means and policy did Rome accomplish the conquest and subjugation of Greece?

4. Define the meaning of the terms:—*Provincia*, *Colonia*, *Municipium*, *Civitas*, *Clientes*, *Socii*.

(B) 1. (*a*) What participles has the verb in Greek which are wanting in Latin? How does the Latin supply the defect? (*b*) Name the *Primary* and the *Historic* tenses. Why are they so designated? (*c*) Mention (1st Sing., and Ind. Act.) the Fut. of ἀγνυμι: the Aor. I. of στέλλω: the Perf. of ἵημι: the Perf. II. of πείθω: the Aor. II. of τίκτω.

2. (*a*) Illustrate the use of the Article with the *attributive* and with the *predicative* word in a sentence. (*b*) Illustrate by examples the use of the *Objective* and the *Subjective Genitive*; the *Cognate Accusative*; and the *Dativus Ethicus*.

3. (*a*) Define the term Idiom. (*b*) Express in Latin:—(1) He died four years after I saw him. (2) He came for the purpose of seeing the city. (3) We may live free from care. (4) So to say. (5) We have received information. (6) I have been persuaded to return to the city. (*c*) Translate into English (1) Cum ad senatum relatum esset. (2) Dictatorem quaestionibus, exercendis, dici placuit; (3) Nec diu proditoribus, impunita res fuit. (4) Non inferiora secutus. (5) Diis cordi fuit. (6) Cernere erat.

4. Define the terms *Oratio obliqua* and *Oratio recta*, and state what changes are made when a statement is converted from the latter into the former.

(C) Translate into Greek:—

1. He said that the Athenian soldiers had come for the purpose of driving the enemy from the city. 2. He said that if he had a talent he would gladly give it to his poor friend. 3. He was an orator clever at speaking, and all that he said was pleasant to hear. 4. So ambitious was he as to be willing to endure all dangers for the sake of being praised.

Translate into Latin:—

But the events of the last year of this struggle plainly shewed what Rome would have to fear from a coalition of all the twelve cities. Two of the Roman generals were defeated; one was killed in the battle; and the panic spread to the lines before Veii and even to Rome itself, where the rumor prevailed that the whole force of Etruria was on its march that the camp before Veii was actually assailed by the enemy, and that his victorious bands might be expected at any moment to advance on Rome. So great was the alarm that the matrons crowded the temples to avert by prayers and sacrifices their country's peril, and the senate resolved to appoint a dictator.

ORDINARY MATHEMATICS.

WEDNESDAY, SEPTEMBER 24TH : — MORNING, 9 to 12.

Examiner.....REV. PRINCIPAL LOBLEY, D. C. L.

1. Inscribe a circle in a given triangle.

2. Describe an isosceles triangle having each of the angles at the base double of the vertical angle.

3. Equiangular triangle shave the sides about their equal angles proportional, and those sides homologous which are opposite to the equal angles.

4. Similar rectilineal figures can be divided into the same number of similar triangles.

5. What is a surd? What are similar surds?

Simplify $\frac{1}{2}\sqrt{18} + \sqrt[4]{324} - \sqrt{32} + \sqrt{\frac{1}{2}}$

6. Solve the equations

(*i*) $x - \frac{y-2}{7} = 5$, $4y - \frac{x+10}{3} = 3$

(*ii*) $\left.\begin{aligned} x+y &= a \\ y+z &= b \\ z+x &= c \end{aligned}\right\}$

7. Show that every quadratic equation has two and only two roots

Solve the equation $\frac{2x}{x-4} + \frac{2x-5}{x-3} = \frac{25}{3}$.

8. Define the sine, cosine, and tangent of an angle. Find the numerical value of sin 45°.

9. Prove that $\sin(A + B) = \sin A \cos B + \cos A \sin B$.

10. Prove that $\cos A = 2\cos^2\frac{A}{2} - 1$.

11. Write down the formulæ for

(1) the cosine of an angle of a triangle in terms of the sides.

(2) the area of a triangle in terms of the sides.

ANCIENT GEOMETRY

WEDNESDAY, SEPTEMBER 24TH : —AFTERNOON, 2 TO 4.30

Examiner..... REV. PRINCIPAL LOBLEY, D. C. L.

1. The perpendiculars to the sides of a triangle from the angular points meet in the centre of the circumscribed circle.

2. Given the three bisectors of the sides of a triangle ; construct it.

3. Inscribe a rhombus of given species in any triangle.

4. Straight lines are drawn from a given point to the circumference of a given circle and cut in a given ratio ; find the locus of the points of section.

5. If perpendiculars be drawn from any point in the circumference of a given circle to the sides of an inscribed triangle, their feet are in one straight line.

6. Describe a circle passing through a given point and touching two given straight lines.

7. Given a straight line and two points in the same side of it ; find a point in the straight line at which the two points will subtend a maximum angle.

8. Given the base and vertical angle of a triangle and the difference of the sides ; construct it.

MODERN GEOMETRY.

SATURDAY, SEPTEMBER 27TH :—MORNING, 9 to 11.30.

Examiner.. ..... REV. PRINCIPAL LOBLEY, D. C. L.

1. Explain the terms Transversal, Ray, Pencil.

If a transversal cuts the sides of a triangle the segments of any side are in a ratio compounded of the ratios of the segments of the other sides.

2. Given the base and ratio of the sides of a triangle ; find the vertex.

3. When are two triangles "co-polar"? when are they "co-axial." If two triangles are co-polar prove that they are also co-axial.

4. If a variable tangent to a circle meet two fixed tangents, the intercept on it subtends a constant angle at the centre.

5. What is the "radical axis" of two circles?

The radical axes of each pair of a system of three circles meet in a point.

6. Any straight line meeting a circle and the sides of any inscribed quadrilateral is cut in involution.

7. If through any point inside or outside a given circle secants be drawn the straight lines joining the extremities of the chords intersect on the polar of that point.

THEORY OF EQUATIONS.

SATURDAY, SEPTEMBER 27TH: — AFTERNOON, 2 to 4.30.

Examiner.....REV. PRINCIPAL LOBLEY, D. C. L.

1. Find the relations between the co-efficient of the function $f(x)$, and the roots of the equation $f(x) = 0$.

2. Show how to transform an equation into one whose roots are the squares of the roots of the given equation.

3. Determine whether the equation

$$x^3 - 5x^2 - 8x + 48 = 0.$$

has equal roots, and if so, find them.

4. If the co-efficients of an equation are integers and that of the first term unity, the equation cannot have rational fractional roots,

5. Solve the equation $x^3 - 15x^2 - 33x + 847 = 0$.

6. State and prove Sturm's Theorem on the number and situation of real roots of a given equation.

7. Find two places of decimals of the root lying between 2 and 3 of the equation $x^3 - 4x - 12 = 0$.

ENGLISH LITERATURE.

Shakespeare :—*As You Like It.*—Trench :—*Study of Words.*

THURSDAY, SEPT. 25 :— AFTERNOON, 2 TO 5.

Examiner,..... ....CHAS. E. MOYSE, B.A.

(A) *As You Like It* :—

Act I.—Give an account of the quarrel between Oliver and Orlando. Explain the following constructions and words : (*a*) for the which. (*b*) Marry ! (*c*) You (to a brother) *shall* hear me. (*d*) He that escapes me without some broken limb *shall* acquit him well. (*e*) Thou wert best look to't. (*f*) The best is yet to do.

Act II.—Why does the Duke prefer the woods to the court ?

Give Jaques' account of his meeting with the fool.

Mention, without further circumstance, the seven ages of man.

Explain : (*a*) wise saws. (*b*) whistles in *his* sound. What is supposed to be the derivation of the word pantaloon ?

Act III.—Explain the following : (*a*) the *unexpressive* she. (*b*) A *parlous* state. (*c*) A South Sea of discovery. (*d*) Gargantua's mouth. (*e*) No *moe* of my verses. (*f*) Yes, *just*. (*g*) The quotidian of love. (*h*) The common executioner.....Falls not the axe.

Act IV.—How does Jaques define his melancholy ?

"Men have died from time to time, ...but not for love." What instances does Rosalind adduce ?

Act V.—Give a very brief outline of this Act, but omit no essential point.

Did you notice anything peculiar in the Epilogue ?

(B) The Study of Words :

1. Mention two names which have been used to make their possessors appear under false colours.

2. Mention three names of flowers which show the poetry in words. What poetical ideas lie beneath the words mariposa, stellio, and rossignol ?

3. Instance a few words (say six) which show Sin and Degeneration in language.

4. What does Trench say about the Arabs ?

5. Mention a few of the names of persons which have since become names of things.

6. What words does Trench group around *shire*. Take four sets of Homonyms and derive the words of each set. Show that the Danes "have left their marks on the land."

FRENCH.

Examiner,.....P. J. DAREY, M.A., B.C.L.

1. Translate into English :—

Sur le bord d'un puits très profond
Dormait, étendu tout de son long,
Un enfant alors dans ses classes.
Tout est aux écoliers, couchette et matelas.
Un honnête homme, en pareil cas,
Aurait fait un saut de vingt brasses. (1)
Près de là tout heureusement
La Fortune passa, l'éveilla doucement,
Lui disant : mon mignon, (2) je vous sauve la vie ;
Soyez (3) une autre fois plus sage, je vous prie.
Si vous fussiez tombé, l'on (4) s'en fût pris à moi ;
Cependant c'était votre faute,
Je vous demande, en bonne foi,
Si cette imprudence si haute
Provient de mon caprice.—Elle part (6) à ces mots.

LA FONTAINE, Fable V. II.

2. (1) Explain that expression *un saut de vingt brasses*. What measure is *une brasse?*

(2) What term is *mignon?* To whom is it applied ?

(3) Write a person of all the simple tenses of that verb.

(4) Parse *l'*. When is it generally used ?

(5) What sort of expression is *s'en fût pris à moi?*
What is the meaning of it ?

(6) Same question as (3) for *part* and *naître*.

3. What did Molière want to turn into ridicule in the *Malade imaginaire?*

4. Translate the following phrases taken from the *Malade imaginaire*.

Bien que, pour étaler ses vertus immortelles,
La force manque à vos esprits,
Ne laissez pas tous deux de recevoir le prix.

Allons il faut en passer par là. Qu'on me fasse venir ma fille Angélique Je m'en doute assez. En tout cas vous serez bientôt éclaircie. Est-il rien de plus fâcheux que la contrainte où l'on me tient, qui bouche tout commerce aux doux empressements de cette mutuelle ardeur que le ciel nous inspire ? Elle vous dira qu'elle n'a que faire de Monsieur Diafoirus. Ah! je n'en puis plus.

5. Write in the plural: *un arc-en-ciel, un chou-fleur, un tête-à-tête, un Hôtel-Dieu, un blanc-seing, un chef-lieu.* Give the rules according which you make the plurals in those nouns.

6. In how many ways do you write the numeral adjective *mille?* Give examples. When does the word *mille* take an *s* in the plural?

7. When do the adjective *demi, nu, feu,* vary, and when do the remain invariable? Give examples.

8. Correct the following sentences and say why they are incorrect: Il a su reconnaître et se servir de ses avantages. Le bateau à vapeur, Montréal va et revient de Québec tous les deux jours.

9. Translate into French:

I would send my servant to the post-office if I knew that I have a letter there. We grind our coffee ourselves. We are born in this world to prepare ourselves for a better one. Some cows were grazing in the meadows. My mind has followed you in all your travels. How many people cannot be convinced except by experience. Oaks grow on Mount Royal. We have here somebody who pretends to foretell the rain and fine weather. There fell a great deal of snow last winter.

CHEMISTRY.

THURSDAY, SEPTEMBER 25:—AFTERNOON, 2 TO 5.

Examiner, ...B. J. HARRINGTON, B.A., PH.D.

1. What changes take place when the following substances are treated with concentrated Sulphuric Acid:—(1) Common Salt, (2) Nitre, (3) Potassium Ferrocyanide, (4) Fluor-spar? Give equations.

2. You are given some Ammonia-water and Nitric Acid. How would you prepare Laughing Gas from these materials?

3. Why is the molecule of Phosphorus supposed to contain 4 atoms?

4. Give the formulæ of the following substances:—Barium Hypophosphite, Calcium Metaphosphate, Sodium Hypochlorite, Amyl Alcohol, Formic Acid.

5. How does Boron occur in nature? How would you obtain Boracic Anhydride from Borax?

6. A shaving is dipped in strong Nitric Acid and suspended in a jar of Sulphurous Anhydride. What takes place?

7. Describe the preparation of Ether, giving equations for the chemical changes which take place.

8. What are the general characteristics of the Essential Oils, and how are they commonly obtained?

9. Give the formulæ of Glycol and Glycerin. Why are these substances sometimes spoken of as alcohols?

SESSIONAL EXAMINATIONS, 1885.

CLASSICS.

FIRST YEAR.

GREEK. — XENOPHON. — HELLENICS, BOOK I.

WEDNESDAY, APRIL 1ST :—MORNING, 9 TO 12.

Examiner,.....J. M. MULGAN, ESQ., M.A.

1. Translate :—

(A) Τῆς δὲ νυκτὸς ἰδὼν τὰ πυρά, καί τινων αὐτῷ ἐξαγγειλάντων ὅτι οἱ Ἀθηναῖοι εἶεν, ἀνήγετο περὶ μέσας νύκτας ὡς ἐξαπιναίως προσπέσοι· ὕδωρ δ ἐπιγενόμενον πολὺ καὶ βρονταὶ διεκώλυσαν τὴν ἀναγωγήν. ἐπεὶ δὲ ἀνέσχεν, ἅμα τῇ ἡμέρᾳ ἔπλει ἐπὶ τὰς Ἀργινούσας. οἱ δ' Ἀθηναῖοι ἀντανήγοντο εἰς τὸ πέλαγος τῷ εὐωνύμῳ, παρατεταγμένοι ὧδε. Ἀριστοκράτης μὲν τὸ εὐώνυμον ἔχων ἡγεῖτο πεντεκαίδεκα ναυσί, μετὰ δὲ ταῦτα Διομέδων ἑτέραις πεντεκαίδεκα· ἐπετέτακτο δὲ Ἀριστοκράτει μὲν Περικλῆς, Διομέδοντι δὲ Ἐρασινίδης· παρὰ δὲ Διομέδοντα οἱ Σάμιοι δέκα ναυσὶν ἐπὶ μιᾶς τεταγμένοι. ἐστρατήγει δὲ αὐτῶν Σάμιος ὀνόματι Ἱππεύς. ἐγόμενοι δ' αἱ τῶν ταξιάρχων δέκα, καὶ αὐταὶ ἐπὶ μιᾶς· ἐπὶ δὲ ταύταις αἱ τῶν ναυάρχων τρεῖς, καὶ εἴ τινες ἄλλαι ἦσαν συμμαχίδες.

(B) Ὑμεῖς δὲ κατὰ τὸν νόμον εὐσεβοῦντες καὶ εὐορκοῦντες κρινεῖτε καὶ οὐ ἀναπολεμήσετε Λακεδαιμονίοις τοὺς ἐκείνους ἑβδομήκοντα ναῦς ἀφελομένους ἀεὶ νενικηκότας, τούτους ἀπολλύντες ἀκρίτους παρὰ τὸν νόμον. τί δὲ καὶ δεδιότες σφόδρα οὕτως ἐπείγεσθε ; ἢ μὴ οὐχ ὑμεῖς ὃν ἂν βούλησθε ἀποκτείνητε καὶ ἐλευθερώσητε, ἂν κατὰ τὸν νόμον κρίνητε, ἀλλ' οὐκ ἂν παρὰ τὸν νόμον, ὥσπερ Καλλιξενος τὴν βουλὴν ἔπεισεν εἰς τὸν δῆμον εἰσενεγκεῖν μιᾷ ψήφῳ ; ἀλλ' ἴσως ἀν τινα καὶ οὐκ αἴτιον ὄντα ἀποκτείναιτε, μεταμελήσει δὲ ὕστερον. ἀναμνήσθητε ὡς ἀλγεινὸν καὶ ἀνωφελὲς ἤδη ἐστί, πρὸς δ' ἔτι καὶ περὶ θανάτου ἀνθρώπου ἡμαρτηκότες. δεινὰ δ' ἂν ποιήσαιτε.

(C) Ἀλκιβιάδης μὲν οὖν πονήρως καὶ ἐν τῇ στρατιᾷ φερόμενος, λαβὼν τριήρη μίαν ἀπέπλευσεν εἰς Χερρόνησον εἰς τὰ ἑαυτοῦ τείχη. μετὰ δὲ ταῦτα Κόνων ἐκ τῆς Ἄνδρου σὺν αἷς εἶχε ναυσὶ εἴκοσι ψηφισαμένων Ἀθηναίων εἰς Σάμον ἔπλευσεν ἐπὶ τὸ ναυτικόν. ἀντὶ δὲ Κονωνος εἰς Ἄνδρον ἐπεμψαν Φανοσ

θένην τέτταρας ναῦς ἔχοντα. οὗτος περιτυχὼν δυοῖν τριήροιν Θουρίαιν ἔλαβεν αὐτοῖς ἀνδράσι· καὶ τοὺς μὲν αἰχμαλώτους ἁπαντας ἔδησαν Ἀθηναῖοι, τὸν δὲ ἄρχοντα αὐτῶν Δωριέα, ὄντα μὲν Ῥόδιον, πάλαι δὲ φυγάδα ἐξ Ἀθηνῶν καὶ Ῥόδου, ὑπὸ Ἀθηναίων κατεψηφισμένων αὐτοῦ θάνατον καὶ τῶν ἐκείνου συγγενῶν, πολιτεύοντα παρ' αὐτοῖς, ἐλεήσαντες ἀφεῖσαν οὐδὲ χρήματα πραξάμενοι.

2. (*a*) Extract (A) :—νυκτὸς, what genitive? Mention parallel uses of the genitive. What is the subject of ἀνεσχεν? (*b*) Ext. (B):— what is the full force of the difference in mood between μεταμελήσει and ἀποκτέναιτε. (*c*) Explain the ellipse in ἢ μὴ οὐχ. (*d*) What is the force of ἄν in ὃν ἂν βούλησθε and ἀλλ' οὐκ ἂν. (*e*) Extract (C):—σὺν αἷς εἶχε ναῦσι. What is meant by attraction? Put this clause into its unattracted form. (*f*) Explain the Dative in αὐτοῖς ἀνδρασι. (*g*) Give all the uses you can of ἐπὶ with the Genitive and παρὰ with the Accusative.

3. (*a*) Explain the manœuvres which the arrangement of the Athenian ships at the battle of Arginusæ was calculated to prevent. (*b*) What do you know of Conon, Callicratidas, Eteonicus and Lysander. (*c*) Mention the illegalities committed by the Athenians in the trial of the generals.

4. Translate, and explain the construction of the following extracts (*a*) οὗτος δ' οὐκ ἔφη ἀλλ' ἢ κατὰ νόμον πάντα ποιήσειν. (*b*) ἐφασαν τοὺς στρατηγοὺς δικαίους εἶναι λόγον ὑπόσχειν. (*c*) ἐθυε τὰ εὐαγγέλια. (*d*) Κόνων δὲ ὡς ἐφθη ὑπὸ τῶν πολεμίων κατακωλυθείς. (*e*) ἀνήχθη εὐθὺ Γυθείου ἐπὶ κατασκοπὴν τῶν τριήρων καὶ τοῦ οἰκαδε κατάπλου ὅπως ἡ πόλις πρὸς αὐτὸν ἔχει.

5. (*a*) Give the meaning and derivation of εὐώνυμον, ὑπάρχειν, φιλοτιμεῖσθαι, λῃζεσθαι, οἰωνίζεσθαι, προπίνειν, διαλλάττειν, οὐριον, ἐπιβολὴν. (*b*) parse ηὐλίζοντο, ἤνοιξεν, ἀπηγεν, κεκαρμένους, καταδύσης, ἀναρρηθείς, διῃρημένων, συνιέντων.

6. (*a*) Give the principal tenses. (1st Sing. Indic.) of γιγνώσκω, ἐπιστέλλω, μανθάνω, καταδύω, προτίθημι, ἀπόλλυμι. (*b*) Decline πολὺς, ναῦς, χείμων, πῦρ, εἷς, χάρις.

7. What is the difference between (*a*) ἀνδράποδον and δοῦλος. (*b*) ἀποδίδωμι and ἀποδίδομαι (Middle). (*c*) ὁρμίζειν, ὁρμίζεσθαι, and ἐφορμεῖν. (*d*) πείθειν and πείθεσθαι. (*e*) καθίστημι, and κατέστην.

INTERMEDIATE EXAMINATION.

GREEK.—ISOCRATES—THE PANEGYRICUS.

WEDNESDAY, APRIL 1ST :—MORNING, 9 TO 12.

Examiners, } ..... { REV. GEORGE CORNISH, LL.D.
REV. GEORGE WEIR, LL.D.

1. Translate :—

(A) Φιλοσοφίαν τοίνυν, ἣ πάντα ταῦτα συνεξεῦρε καὶ συγκατεσκεύασε, καὶ πρός τε τὰς πράξεις ἡμᾶς ἐπαίδευσε καὶ πρὸς ἀλλήλους ἐπράϋνε, καὶ τῶν συμφορῶν τάς τε δι' ἀμαθίαν καὶ τὰς ἐξ ἀνάγκης γιγνομένας διεῖλε, καὶ τὰς μὲν φυλάξασθαι, τὰς δὲ καλῶς ἐνεγκεῖν ἐδίδαξεν, ἡ πόλις ἡμῶν κατέδειξε, καὶ λόγους ἐτίμησεν, ὧν πάντες μὲν ἐπιθυμοῦσι, τοῖς δ' ἐπισταμένοις φθονοῦσι, συνειδυῖα μὲν, ὅτι τοῦτο μόνον ἐξ ἁπάντων τῶν ζώων ἴδιον ἐφυμεν ἔχοντες, καὶ διότι τούτῳ πλεονεκτήσαντες καὶ τοῖς ἄλλοις ἅπασιν αὐτῶν διηνέγκαμεν, ὁρῶσα δὲ περὶ μὲν τὰς ἄλλας πράξεις οὕτω ταραχώδεις οὔσας τὰς τύχας ὥστε πολλάκις ἐν αὐταῖς καὶ τοὺς φρονίμους ἀτυχεῖν καὶ τοὺς ἀνοήτους κατορθοῦν, τῶν δὲ λόγων τῶν καλῶς καὶ τεχνικῶς ἐχόντων οὐ μετὸν τοῖς φαύλοις. ἀλλὰ ψυχῆς εὖ φρονούσης ἔργων ὄντας, καὶ τούς τε σοφοὺς καὶ τοὺς ἀμαθεῖς δοκοῦντας εἶναι ταύτῃ πλεῖστον ἀλλήλων διαφέροντας.

(B) Ἀλλὰ γὰρ οὐκ ἐκ τούτων δίκαιόν ἐστι σκοπεῖν τὴν βασιλέως δύναμιν, ἐξ ὧν μεθ' ἑκατέρων γέγονεν, ἀλλ' ἐξ ὧν αὐτὸς ὑπὲρ αὑτοῦ πεπολέμηκεν. καὶ πρῶτον μὲν ἀποστάσης Αἰγύπτου τί διαπέπρακται πρὸς τοὺς ἔχοντας αὐτήν; οὐκ ἐκεῖνος μὲν ἐπὶ τὸν πόλεμον τοῦτον κατέπεμψε τοὺς εὐδοκιμωτάτους Περσῶν, Ἀβροκόμαν καὶ Τιθραύστην καὶ Φαρνάβαζον, οὗτοι δὲ τρί' ἔτη μείναντες καὶ πλείω κακὰ παθόντες ἢ ποιήσαντες, τελευτῶντες οὕτως αἰσχρῶς ἀπηλλάγησαν ὥστε τοὺς ἀφεστῶτας μηκέτι τὴν ἐλευθερίαν ἀγαπᾶν ἀλλ' ἤδη καὶ τῶν ὁμόρων ζητεῖν ἐπάρχειν;

(C) Θαυμάζω δὲ τῶν δυναστευόντων ἐν ταῖς πόλεσιν, εἰ προσῆκειν αὐτοῖς ἡγοῦνται μέγα φρονεῖν, μηδὲν πώποθ' ὑπὲρ τηλικούτων πραγμάτων μήτ' εἰπεῖν μήτ' ἐνθυμηθῆναι δυνηθέντες. ἐρχῆν γὰρ αὐτοὺς, εἴπερ ἦσαν ἄξιοι τῆς παρούσης δόξης, ἁπάντων ἀφεμένους τῶν ἄλλων περὶ τοῦ πολέμου τοῦ πρὸς βαρβάρους εἰσηγεῖσθαι καὶ συμβουλεύειν. τυχὸν μὲν γὰρ ἂν τι συνεπέραναν· εἰ δὲ καὶ προαπεῖπον, ἀλλ' οὖν τούς γε λόγους ὥσπερ χρησμοὺς εἰς τὸν ἐπιόντα χρόνον ἂν κατέλιπον. νῦν δ' οἱ μὲν ἐν ταῖς μεγίσταις δόξαις ὄντες ἐπὶ μικροῖς σπουδάζουσιν, ἡμῖν δὲ τοῖς τῶν πολιτικῶν ἐξεστῶσι περὶ τηλικούτων πραγμάτων συμβουλεύειν παραλελοίπασιν.

2. (*a*) Give a general analysis of ext. (A). (*b*) Enumerate the uses of the Participle in Greek, illustrating as far as you can by the participal constructions in the same ext. (*c*) Explain carefully the grammatical constructions of the clause, *τῶν δὲ λόγων * * * ἔργον ὄντας.*

3. (*a*) Explain the usages of *θαυμάζω τῶν δυναστευόντων, ἁπάντων ἀφεμένους, τυχὸν μὲν γὰρ ἂν τι συνεπέραναν*, in ext. (C). (*b*) Explain, giving dates, the historical references of ext. (B).

4. Parse the following words, giving the principal parts of the verbs :—*διεῖλε, ἐνεγκεῖν, συνειδυῖα, ταραχώδεις, μείζω, ἧττους, ἀπηλλάγησαν, ἀφεστῶτας, προὐργαίτερον, ἐπιδειχθεῖεν, εἰάθησαν, ἐφθησαν.*

5. Give the exact meaning and derivation of the following words :—*ὑπογυίου, δυσπείστως, μιγάδες, ἀχρήστως, ἀνυποστάτων, λυμεῶνες, καταποντισταί, ἀργυρωνήτων, ἀκέραιος, πλῆθος, ἀνάστατος.*

6. Write explanatory notes on the following words and expressions :—*πανηγύρεις, σοφιστῶν, γνησίως γεγόναμεν, αὐτόχθονες ὄντες, τῶν δεκαρχιῶν, μετοικεῖν, πλεῦσαι μὲν διὰ τῆς ἠπείρου, πεζεῦσαι δὲ διὰ τῆς θαλάττης, τοῖς μεμυημένοις.*

7. Explain the Attic usage of the adverb with *ἔχω* in such phrases as *πολιτικῶς εἶχον, κ. τ. λ.*

8. Give the force and meaning of the prepositions in the following :—(1) *ὑπὲρ τοὺς ἰδιώτας.* (2) *ὑπὲρ ἐμαυτοῦ θρισυνάμενος.* (3) *ἐφ' ἑκατέρας ἠπείρου πόλεις.* (4) *ἐπὶ δουλείᾳ * * Ἑλλήνων τὸν βάρβαρον θεραπεύοντες.* (5) *ἐπὶ τάδε Φασήλιδος.* (6) *πρὸς ἀργύριον εὐδαιμονίαν ἔκρινον.* (7) *καθ' ὅλης τῆς Ἑλλάδος ἐσ ήκασιν.*

9. State as accurately as you can (1) the etymology, (2) the meaning, and (3) the usage of the following particles, or combinations of particles :—*μέν, δέ, δή, μήν, οὐκοῦν, οὔκουν, μὲν οὖν, ἄλλως τε καί, γάρ, ἀλλὰ γάρ, καί τε καί, καὶ μήν.*

10. Write a sketch of the life of Isocrates. (*b*) Point out the leading characteristics, grammatical and rhetorical, of his style. (*c*) State briefly the argument of the Panegyricus, and give its proximate date.

THIRD YEAR.

GREEK.—AESCHYLUS.—PROMETHEUS VINCTUS.

FRIDAY, APRIL 10TH :—MORNING, 9 TO 12.

Examiner,.....REV. GEORGE CORNISH, LL.D.

Translate :—

(A)

ΗΦ. καὶ δὴ πρόχειρα ψάλια δέρκεσθαι πάρα.
ΚΡ. λαβών νιν ἀμφὶ χερσὶν ἐγκρατεῖ σθένει
ῥαιστῆρι θεῖνε, πασσάλευε πρὸς πέτραις.
ΗΦ. περαίνεται δὴ κοὐ ματᾷ τοὔργον τόδε.
ΚΡ. ἄρασσε μᾶλλον, σφίγγε, μηδαμῆ χάλα.
δεινὸς γὰρ εὑρεῖν κἀξ ἀμηχάνων πόρους.
ΗΦ. ἄραρεν ἥδε γ' ὠλένη δυσεκλύτως.
ΚΡ. καὶ τήνδε νῦν πόρπασον ἀσφαλῶς, ἵνα
μάθῃ σοφιστὴς ὢν Διὸς νωθέστερος.
ΗΦ. πλὴν τοῦδ' ἂν οὐδεὶς ἐνδίκως μέμψαιτό μοι.
ΚΡ. ἀδαμαντίνου νῦν σφηνὸς αὐθάδη γνάθον
στέρνων διαμπὰξ πασσάλευ' ἐρρωμένως.
ΗΦ. αἰαῖ, Προμηθεῦ, σῶν ὕπερ στένω πόνων.
ΚΡ. σὺ δ' αὖ κατοκνεῖς τῶν Διὸς τ' ἐχθρῶν ὕπερ
στένειες ; ὅπως μὴ σαυτὸν οἰκτιεῖς ποτέ.
ΗΦ. ὁρᾷς θέαμα δυσθέατον ὄμμασιν.
ΚΡ. ὁρῶ κυροῦντα τόνδε τῶν ἐπαξίων.
ἀλλ' ἀμφὶ πλευραῖς μασχαλιστῆρας βάλε.
ΗΦ. ὁρᾶν ταῦτ' ἀνάγκη, μηδὲν ἐγκέλευ' ἄγαν.
ΚΡ. ἢ μὴν κελεύσω κἀπιθωύξω γε πρός.

(B)

ὃ δ' οὖν ἐρωτᾶτ', αἰτίαν καθ' ἥντινα
αἰκίζεταί με, τοῦτο δὴ σαφηνιῶ.
ὅπως τάχιστα τὸν πατρῷον ἐς θρόνον
καθέζετ', εὐθὺς δαίμοσιν νέμει γέρα
ἄλλοισιν ἄλλα καὶ διεστοιχίζετο
ἀρχήν· βροτῶν δὲ τῶν ταλαιπώρων λόγον
οὐκ ἔσχεν οὐδέν', ἀλλ' ἀϊστώσας γένος
τὸ πᾶν ἔχρηζεν ἄλλο φιτῦσαι νέον.
καὶ τοισίδ' οὐδεὶς ἀντέβαινε πλὴν ἐμοῦ.
ἐγὼ δ' ἐτόλμησ'· ἐξελυσάμην βροτοὺς
τοῦ μὴ διαρραισθέντας εἰς Ἅιδου μολεῖν.

(C)

ὑπὸ δὲ κηρόπλαστος ὀτοβεῖ δόναξ
ἀχέτας ὑπνοδόταν νόμον· ἰὼ ἰώ, πόποι,
ποῖ, πόποι, ποῖ μ' ἄγουσι τηλέπλανοι πλάναι ;

τί ποτέ μ', ὦ Κρόνιε,
ποῖ, τί ποτε ταῖσδ' ἐνέζευξας εὐ—
ρὼν ἁμαρτοῦσαν ἐν πημοσύναις, ἔ ἐ,
οἰστρηλάτῳ δὲ δείματι δειλαίαν
παράκοπον ὧδε τείρεις ;
πυρί με φλέξων, ἢ χθονὶ κάλυψον, ἢ
ποντίοις δάκεσι δὸς βορὰν,
μηδέ μοι φθονήσῃς
εὐγμάτων, ἄναξ.
ἄδην με πολύπλανοι πλάναι
γεγυμνάκασιν. οὐδ' ἔχω μαθεῖν ὅπῃ
πημονὰς ἀλύξω.
κλύεις φθέγμα τᾶς βούκερω παρθένου ;

2. (*a*) Ext. (A)(1) πάρα, distinguish from παρά. (2) δεινὸς εὑρεῖν,—what use of the Infin. ? (3) ἄραρεν, note the quantity of the penult, parse and distinguish. (4) ἂν οὐδεὶς μέμψαιτο, ὅπως μὴ σαυτὸν οἰκτιεῖς,–Explain these grammatical usages. (*b*) Ext. (B) (1) νέμει—διεστοιχίζετο,—why this change of tense ? (2) Give the order of the sense in vss. 6–8.(3)Construe ἐξελυσάμην.....μολεῖν, and explain this use of μή. (*c*) Ext. (C) (1) How is ὑπὸ in vs. 1.used ? (2) ὑπνοδόταν νόμον,—what Accus. ? (3) μηδέ μοι φθονήσῃς εὐγμάτων,—explain the construction.

3. Explain the following forms :—ἀχέτας, πόποι, τᾶς, βούκερω, δᾶ, νίν, ἄλευ, γέρα, ἴοτατι, οὐμός, τὰν.

4. Give as accurately as you can the import of the following particles :—ἦ μήν, δ' οὖν, πῶς γάρ, γέ, πῆ, ποτε, οὐκουν, οὐκοῦν, οὐ δῆτα, ἦ που.

5. Give the etymology and exact meaning of :—βρῳσιμον, πιστόν, χριστόν, δεξιοί, εὐωνύμους, ἐνοδίους, συμβόλους, ἐπάργεμα, παράορον, παράκοπον, παρέσυρας, παραλίαν.

6. Parse, giving their principal parts :—φλέξον, ἀπαλλαγῶ, ἦσαν, λέλακε, κάμψειεν, ἀχθεσθῇ, τυπείς, ἀφῖσαι, μεθάρμοσαι, ἀκήδει, σκεδᾷ στορέσας.

7. (*a*) " χαλκόν, ἀίδηρον, ἄργυρον, χρυσόν " :—Comment on the order o enumeration. (*b*) ποινάς — ποιναῖς —ἀλέκει : — distinguish between these readings. (*c*) φρενῶν ἐπηβόλους :—construe φρενῶν, and express the phrase in Latin. (*d*)μάχας ἄτρεστοι :—what case is μάχας ? (*b*) οὐκ ἀσούσαις :—distinguish according to the quantity of the *antepenult*. (*f*) τὰ μέν σ' ἐπαινῶ :—explain the import of this phrase, and express in in Latin, illustrating from Horace.

8. (*a*). State the import of this Drama, and name its approximate date. (*b*) Describe the opening scene as to geographical situation, stage-accessories, etc. (*c*) How was the *persona* of Prometheus represented ? And how many actors were there ?

B.A. ORDINARY EXAMINATION.

GREEK.— { HERODOTUS.—BOOK IX.
AESCHYLUS.—PROMETHEUS VINCTUS.

WEDNESDAY, APRIL 15TH: — MORNING, 9 TO 1 .

Examiners,..... { REV. GEORGE CORNISH, LL.D
REV. GEORGE WEIR, LL.D.

1. Translate :—

(A) Ὁ μέν σφι ταῦτα συνεβούλευε, οἱ δὲ φρενὶ λαβόντες τὸν λόγον, αὐτίκαι φράσαντες οὐδὲν τοῖσι ἀγγέλοισι τοῖσι ἀπιγμένοισι ἀπὸ τῶν πολίων νυκτὸς ἐπ κπέμπουσι πεντακισχιλίους Σπαρτιητέων [καὶ ἑπτὰ περὶ ἕκαστον τάξαντες τῶν εἰλώτων]. Παυσανίῃ τῷ Κλεομβρότου ἐπιτρέψαντες ἐξάγειν. ἐγίνετο μέν νυν ἡ ἡγεμονίη Πλειστάρχου τοῦ Λεωνίδεω· ἀλλ' ὁ μὲν ἦν ἔτι παῖς, ὁ δὲ τούτοῦ ἐπίτροπός τε καὶ ἀνεψιός. Κλεόμβροτος γὰρ ὁ Παυσανίεω μὲν πατὴρ, Ἀναξανδρίδεω δὲ παῖς οὐκέτι περιῆν, ἀλλὰ ἀπαγαγὼν ἐκ τοῦ Ἰσθμοῦ τὴν στρατιὴν τὴν τὸ τεῖχος δείμασαν μετὰ ταῦτα οὐ πολλὸν χρόνον τινὰ βιοὺς ἀπέθανε. ἀπῆγε δὲ τὴν στρατιὴν ὁ Κλεόμβροτος ἐκ τοῦ Ἰσθμοῦ διὰ τόδε· θυομένῳ οἱ ἐπ τῷ Πέρσῃ ὁ ἥλιος ἀμαυρώθη ἐν τῷ οὐρανῷ. προσαιρέεται δὲ ἑωυτῷ Παυσανίης Εὐρυάνακτα τὸν Δωριέος, ἄνδρα οἰκίης ἐόντα τῆς αὐτῆς. Οἱ μὲν δὴ σὺν Παυσανίῃ ἐξεληλύθεσαν ἐξω Σπάρτης.

(B) Τούτου δὲ τοιούτου γινομένου οἱ τῶν Ἑλλήνων στρατηγοὶ, ἅτε τοῦ τε ὕδατος στερηθείσης τῆς στρατιῆς καὶ ὑπὸ τῆς ἵππου ταρασσομένης, συνελέχθησαν περὶ αὐτῶν τε τούτων καὶ ἄλλων, ἐλθόντες παρὰ Παυσανίην ἐπὶ τὸ δεξιὸν κέρας. ἄλλα γὰρ τούτων τοιούτων ἐόντων μᾶλλον σφεας ἐλύπεε· οὔτε γὰρ σιτία εἶχον ἔτι, οἵ τέ σφεων ὀπέωνες ἀποπεμφθέντες ἐς Πελοπόννησον ὡς ἐπισιτιεύμενοι ἀποκεκλέατο ὑπὸ τῆς ἵππου, οὐ δυνάμενοι ἀπικέσθαι ἐς τὸ στρατόπεδον. Βουλευομένοισι δὲ τοῖσι στρατηγοῖς ἔδοξε, ἢν ὑπερβάλωνται κείνην τὴν ἡμέρην οἱ Πέρσαι συμβολὴν μὴ ποιεύμενοι, ἐς τὴν νῆσον ἰέναι. ἡ δέ ἐστι ἀπὸ τοῦ Ἀσωποῦ καὶ τῆς κρηνης τῆς Γαργαφίης, ἐπ' ἣ ἐστρατοπεδεύοντο τότε, δέκα σταδίους ἀπέχουσα, πρό τῆς Πλαταιέων πόλιος. νῆσος δὲ οὕτω ἂν εἴη ἐν ἠπείρῳ· σχιζόμενος ὁ ποταμὸς ἄνωθεν ἐκ τοῦ Κιθαιρῶνος ῥέει κάτω ἐς τὸ πεδίον, διέχων ἀπ' ἀλλήλων τὰ ῥέεθρα ὅσονπερ τρία στάδια, καὶ ἔπειτα συμμίσγει ἐς τὠυτό. οὔνομα δε οἱ Ὠερόη. θυγατέρα δὲ ταύτην λέγουσι εἶναι Ἀσωποῦ οἱ ἐπιχώριοι. ἐς τοῦτον δῆ τὸν χῶρον ἐβουλεύσαντο μεταναστῆναι, ἵνα καὶ ὕδατι ἔχωσι χρᾶσθαι ἀφθόνῳ καὶ οἱ ἱππέες σφέας μὴ σινοίατο, ὥσπερ κατιθὺ ἐόντων,

2 (*a*) Ext. (A) (1) Σπαρτιητέων.—Who were these ethnologically, and what position did they occupy in the community? Name the other classes. (2) βιούς·—parse and distinguish. (3) ἥλιος ἀμαυρώθη.

—what dates have been assigned for this? (*b*) Ext. (B)—(1) *ἅτε τοῦ ὕδατος στερηθείσης τῆς στρατιᾶς*·—construe, and show the import of *ἅτε*. (2) *ὡς ἐπισιτεύμενοι*·—parse the verb, giving its equivalent Attic form, and show the import of *ὡς*· (3) Explain the topographical references.

3. Translate the following extt., indicating their connection with th context :—

4. Translate, and prefix the names of the speakers :—

(C)

ἐα, τί χρῆμα ; καὶ σὺ δὴ πόνων ἐμῶν
ἥκεις ἐπόπτης ; πῶς ἐτόλμησας, λιπὼν
ἐπώνυμόν τε ῥεῦμα καὶ πετρηρεφῆ
αὐτόκτιτ' ἄντρα, τὴν σιδηρομήτορα
ἐλθεῖν ἐς αἶαν ; ἦ θεωρήσων τύχας
ἐμὰς ἀφῖξαι καὶ ξυνασχαλῶν κακοῖς ;
δέρκου θέαμα, τόνδε τὸν Διὸς φίλον,
τὸν συγκαταστήσαντα τὴν τυραννίδα,
οἵαις ὑπ' αὐτοῦ πημοναῖσι κάμπτομαι.

(D)

χλιδᾶν ἐοικας τοῖς παροῦσι παράγμασι.
χλιδῶ ; χλιδῶντας ὧδε τοὺς ἐμοὺς ἐγὼ
ἐχθρούς ἰδοιμι· καὶ σὲ ἐν τούτοις λέγω.
ἦ κἀμὲ γάρ τι ξυμφοραῖς ἐπαιτιᾷ ;
ἁπλῶ λόγῳ τοὺς πάντας ἐχθαίρω θεούς, 5
ὅσοι παθόντες εὖ κακοῦσί μ' ἐκδίκως.
κλύω σ' ἐγὼ μεμηνότ' οὐ σμικρὰν νόσον.
νοσοῖμ' ἄν, εἰ νόσημα τοῦς ἐχθροὺς στυγεῖν.
εἷης φορητὸς οὐκ ἄν, εἰ πράσσοις καλῶς.
ὤμοι. τόδε Ζεὺς τοὔπος οὐκ ἐπίσταται. 10
ἀλλ' ἐκδιδάσκει πάνθ' ὁ γηράσκων χρόνος.
καὶ μὴν σύ γ' οὔπω σωφρονεῖν ἐπίστασαι.
σὲ γὰρ προσηύδων οὐκ ἂν ὀνθ' ὑπηρέτην.
ἐρεῖν ἐοικας οὐδὲν ὧν χρήζει πατήρ.
καὶ μὴν ὀφείλων γ' ἂν τίνοιμ' αὐτῷ χάριν. 15
ἐκερτόμησας δῆθεν ὡς παῖδ' ὄντα με.

(E)

εἰδότι τοί μοι τάσδ' ἀγγελίας
δόδ' ἐθώϋξεν, πάσχειν δὲ κακῶς
ἐχθρὸν ὑπ' ἐχθρῶν οὐδὲν ἀεικές.
πρὸς ταῦτ' ἐπ' ἐμοὶ ῥιπτέσθω μὲν
πυρὸς ἀμφήκης βόστρυχος, αἰθὴρ δ'
ἐρεθιζέσθω
βροντῇ σφακέλῳ τ' ἀγρίων ἀνέμων·
χθὸνα δ' ἐκ πυθμένων αὐταῖς ῥίζαις
πνεῦμα κραδαίνοι,

κῦμα δὲ πόντου τραχεῖ ῥοθίῳ
ξυγχώσειεν τῶν τ' οὐρανίων
ἄστρων διόδους, ἐς τε κελαινὸν
Τάρταρον ἀρδην ῥίψειε δέμας
τοὐμὸν ἀνάγκης στερραῖς δίναις·
πάντως ἐμέ γ' οὐ θανατώσει.
τοιάδε μέντοι τῶν φρενοπλήκτων
βουλεύματ' ἐπη τ' ἐστὶν ἀκοῦσαι.
τί γὰρ ἐλλείπει μὴ παραπαίειν
ἡ τοῦδε τύχη ; τί χαλᾷ μανιῶν ;
ἀλλ' οὖν ὑμεῖς γ' αἱ πημοσύναις
ξυγκάμνουσαι ταῖς τοῦδε τόπων
μετά ποι χωρεῖτ' ἐκ τῶνδε θοῶς,
μὴ φρένας ὑμῶν ἠλιθιώσῃ
βροντῆς μύκημ' ἀτέραμνον.

5. (*a*) Ext. (C) (1) Give the exact force of ἔα, καὶ σὺ δή. (2) ἦ—ἦ—θεωρήσων·—distinguish between these readings. (*b*) Ext. (B) (1) what is to be noted in vs. 10 ? (2) Supply the ellipsis in vs. 13, construe 14, and analyse 15, pointing out the protasis. (*c*) Ext. (E)—(1) what is the subject of ξυγχώσειεν, and of ῥίψειε, and of θανατώσει. (2) Give the name and scheme of the metre, and scan the last five vss.

6. Give the etymology and exact meaning of :—βρῶσιμον, πιστόν, χριστόν, δεξιοί, εὐωνύμους, ἐνοδίους συμβόλους, ἐπάργεμα, παράορον, παράκοπον, παρέσυρας, παραλίαν.

7. Parse, giving their principal parts :—φλέξον, ἀπαλλαγῶ, ᾖσαν, λέλακε, κάμψειεν, ἀχθεσθῇ, τυπείς, ἀφῖξαι, μεθάρμοσαι, ἀκήδει, σκεδᾷ, στορέσας.

8. (*a*) " χαλκόν, σίδηρον, ἄργυρον, χρυσόν " :—Comment on the order of enumeration. (*b*) ποινὰς—ποιναῖς—ὀλέκει :—distinguish between these readings. (*c*) φρενῶν ἐπηβόλους :—construe φρενῶν, and express the phrase in Latin. (*d*) μάχας ἄτρεστοι :—what case is μάχας ? (*b*) οὐκ ἀκούσαις :—distinguish according to the quantity of the *antepenult*. (*f*) τὰ μέν σ' ἐπαινῶ :—explain the import of this phrase, and express it in Latin, illustrating from Horace.

9. (*a*) State the import of this Drama, and name its approximate date. (*b*) Describe the opening scene as to geographical situation, stage-accessories, etc. (*c*) How was the *persona* of Prometheus represented ? And how many actors were there ?

FIRST YEAR.

LATIN.—VIRGIL, BOOK VI.

THURSDAY, APRIL 2ND:—MORNING, 9 TO 12.

Examiner,..... .....J. M. MULGAN, ESQ., M.A.

1. Translate:—

(A) Portitor has horrendus aquas et flumina servat
Terribili squalore Charon, cui plurima mento
Canities inculta jacet, stant lumina flamma,
Sordidus ex humeris nodo dependet amictus.
Ipse ratem conto subigit, velisque ministrat,
Et ferruginea subvectat corpora cymba,
Jam senior, sed cruda deo viridisque senectus.
Huc omnis turba ad ripas effusa ruebat,
Matres atque viri, defunctaque corpora vita
* Magnanimum heroum, pueri innuptæque puellæ,
Impositique rogis iuvenes ante ora parentum:
Quam multa in silvis autumni frigore primo
Lapsa cadunt folia, aut ad terram gurgite ab alto
Quam multæ glomerantur aves, ubi frigidus annus
Trans pontum fugat, et terris immittit apricis.

(B) At Phœbi nondum patiens immanis in antro
Bacchatur vates, magnum si pectore possit
Excussisse deum: tanto magis ille fatigat
Os rabidum, fera corda domans fingitque premendo.
Ostia jamque domus patuere ingentia centum
Sponte sua, vatisque ferunt responsa per auras:
O tandem magnis pelagi defuncte periclis!
Sed terræ graviora manent. In regna Lavini
Dardanidæ venient; mitte hanc de pectore curam:
* Sed non et venisse volent. Bella, horrida bella,
Et Thybrim multo spumantem sanguine cerno.

(C) Di, talia Graiis
Instaurate, pio si pœnas ore reposco.
Sed te qui vivum casus, age, fare vicissim
Attulerint. Pelagine venis erroribus actus,
An monitu divom? An quæ te fortuna fatigat,
Ut tristes sine sole domos, loca turbida adires?
Hac vice sermonum roseis Aurora quadrigis
Jam medium ætherio cursu traiecerat axem;
Sed comes admonuit, breviterque adfata Sibylla est;
Nox ruit Æneas; nos flendo ducimus horas.

* Hic locus est, partes ubi se via findit in ambas :
Dextera quæ Ditis magni sub mœnia tendit,
Hac iter Elysium nobis ; At læva malorum
Exercet pœnas, et ad impia Tartara mittit.

2. (*a*) Scan the lines in question 1 marked with an asterisk, and point out irregularities of metre or scansion in the following :—

Quos super atra silex jam jam lapsura cadentique.
Desuper ostentat ; dehinc summa cacumina linquunt.
Bis Patriæ ceeidere manus, quin protinus omnia.

(*b*) State the main differences between English and Latin Hexameter verse.

3 (*a*) Give instances of and explain the various inversions used by Virgil. (*b*) Instance any other means, *e.g.*, peculiarities in syntax, construction, use of words, forms of words, etc., employed by Virgil in order to vary from the usual prose methods of description. (*c*) Mention any inconsistencies found in Æneid bk. VI.

4. Translate, with explanatory grammatical notes, the following :—(*a*) Sate sanguine divom. (*b*) dubiis ne defice rebus. (*c*) quod non sua seminat arbos. (*e*) ter socios pura circumtulit unda. (*f*) animi miseratus. (*g*) ausoque potiti. (*h*) qude cura nitentes pa3cere equos.

5. (*a*) Parse, and give the 1st Sing. Perf. Indic., Sup. and Infin. of :—peredit, innexa, præstiterit, direxti, perosi, avolso, norunt, excussa. (*b*) Decline locus, vis, comes, turris, vellus.

6. (*a*) What are the usual meanings of the following words, and with what unusual meanings does Virgil employ them in Æn. bk. VI. ?—Caducus, obloquitur, ergo, funus, exsomnis, axis, forus, aura, furtum, fallere ossa, acerbus. (*b*) Give the meaning and some account of the component parts of the following words :—Sublimis, cognominis, Eumenides, malesnadus, concilium, discrimen, sollemnia, trifaux, turbidus.

Translate into Latin :—

(*a*) Seneca, a man of great intellect, was condemned to death (*b*) For how much did you buy the horse? What does that matter to you? (use refert.) (*c*) We should put him to death, for he covets (avarus est) our riches, and has no pity on our children. (*d*) He asks you (orat ut) to be wise for your friends, to pardon your enemies, and to consult the interests of (consulere) the state. (*e*) Achilles preferred his affection for Patroclus to his own anger. (*f*) Only those who could endure (patiens) the cold escaped to the city. Here they received each ten sesterces.

FIRST YEAR.

HISTORY.—HISTORY OF GREECE AND ROME.

TUESDAY, APRIL 7TH:—MORNING, 9 TO 12.

Examiner,.....J. MASON MULGAN, ESQ., M.A.

1. (*a*) Write a short account of the reforms of Servius Tullius. (*b*) Give the names of the Roman kings in chronological order, and mention those that were of foreign extraction.

2. Give the dates of the following measures, and in each case state the advantages gained by the Plebs or the chief enactments of the measure:—(*a*) The Decemviral legislation. (*b*) The Horatio Valerian laws. (*c*) The Licinian laws, (*d*) The Lex Hortensia.

3. (*a*) Explain the following terms:—*jus honorum, jus suffragii, addicti, military tribunes, imperium, Patria potestas, Quæstores.*

4. Give (by map or verbal description) the geographical position of the following places, and state very briefly with what events they were connected:—Allia, Vadimo, Ægates, Zama, Metaurus, Caudine Forks, Saguntum, Agrigentum, Capua, Lade, Artemisium, Tempe, Marathon, Athos, Thermopylæ, Platæa.

5. Write an account of (*a*) the war with Pyrrhus, or (*b*) the second Punic war from Hannibal's passage of the Alps to the battle of Cannæ.

6. Over what nations did the Roman sway extend at (*a*) the close of the 2nd Samnite war, (*b*) the close of the 2nd Punic war?

7. (*a*) State what you know of the political condition of Greek States in the time of Homer. (*b*) Name the three great divisions of the Greek race and give some account of their geographical distribution.

8. Describe briefly the reforms or legislation of two of the following:—(*a*) Cleisthenes, (*b*) Lycurgus. (*c*) Solon.

9. Who were the following, and with what events were they connected (write briefly, not more than a couple of lines to each):—Flaminius, Spurius Cassius, Cunctator, Hamilcar, C. Fabricius, Cincinnatus, Menenius Agrippa, Mardonius, Polycrates, Gorgo, Ephialtes, Aristagoras, Demaratus, Spurius Mælius, Harpagus.

10. (*a*) What was meant by the form of government known as a "tyranny?" By what steps was a tyranny generally established, what form of government did it succeed, and by what form or forms was it usually followed? (*b*) Mention four of the principal Greek tyrants.

11. Write a history of (*a*) Peisistratus or (*b*) Themistocles.

INTERMEDIATE EXAMINATION.

LATIN. — HORACE. — EPISTLES, BOOK I.

THURSDAY, APRIL 2nd :—MORNING, 9 TO 12.

Examiners,..... { REV. GEORGE CORNISH, LL.D.
REV. GEORGE WEIR, LL.D.

1. Translate :—

(A) Quem res plus nimio delectavere secundae,
mutatae quatient. Si quid mirabere, pones
invitus. Fuge magna : licet sub paupere tecto
reges et regum *vita praecurrere amicos.*
Cervus equum *pugna* melior *communibus herbis*
pellebat, donec minor in certamine longo
imploravit opes hominis frenumque recepit :
sed postquam victor violens discessit ab hoste,
non equitem dorso, non frenum depulit ore.
Sic, qui pauperium veritus *potiore metallis*
libertate caret, dominum vehet improbus atque
serviet aeternum, quia parvo nesciet uti.
Cui non conveniet sua res, ut calceus olim,
si pede maior erit, subvertet ; si minor, uret.
Laetus sorte tua *vives* sapienter, Aristi,
nec me dimittes incastigatum, ubi plura
cogere quam satis est ac non cessare videbor.
Imperat aut servit collecta pecunia cuique,
tortum digna *sequi* potius, quam ducere funem.
Haec tibi *dictabam* post fanum putre Vacunae,
excepto quod non simul esses, *caetera* laetus.

(B) Contra, quem duplici panno patientia velat,
mirabor vitae via si conversa decebit.
Alter purpureum non exspectabit amictum,
quidlibet indutus celeberrima per loca vadet,
personamque feret non inconcinnus utramque :
alter Mileti textam cane peius et angui
vitabit chlamydem ; morietur frigore, si non
rettuleris pannum : refer et sine vivat ineptus.
Res gerere et captos ostendere civibus hostes
attingit solium Iovis et coelestia tentat.
Principibus placuisse viris non ultima laus est.
Non cuivis homini contingit adire Corinthum.
Sedit, qui timuit, ne non succederet : esto :
quid qui pervenit, fecitne viriliter ? Atqui
hic est aut nusquam, quod quaerimus. Hic onus horret,
ut parvis animis et parvo corpore maius ;
hic subit et perfert.

2. (*a*) Explain the grammatical usages of the words in Italics in ext. (A). (*b*) Explain:—duplici panno, amictum, personam, chlamydem, non cuivis * * Corinthum, Vacunae, ducere funem, calceus.

3. Translate the following extt., adding short explanatory notes where you think proper:—

(*a*) Quod si me populus Romanus forte roget, cur
non, ut porticibus, sic iudiciis fruar isdem,
nec sequar aut fugiam, quæ diligit ipse vel odit:
olim quod vulpes aegroto cauta leoni
respondit, referam: Quia me vestigia terrent,
omnia te adversum spectantia, nulla retrorsum.

(*b*) Nestor componere lites
inter Peliden festinat et inter Atriden:
hunc amor, ira quidem communiter urit utrumque.
Quidquid delirant reges, plectuntur Achivi.
Seditione, dolis, scelere atque libidine et ira
Iliacos intra muros peccatur et extra.

(*c*) Vescere, sodes.
Iam satis est. At tu, quantum vis, tolle.
Benigne.
Non invisa feres pueris munuscula parvis.
Tam teneor dono, quam si dimittar onustus.
Ut libet: haec porcis hodie comedenda relinques.

(*d* Quae mare compescant causae, quid temperet annum,
stellae sponte sua iussaene vagentur et errent,
quid premat obscurum lunae, quid proferat orbem,
quid velit et possit rerum concordia discors,
Empedocles, an Stertinium deliret acumen?

(*e*) Tu mediastinus tacita prece rura petebas,
nunc urbem et ludos et balnea villicus optas;
me constare mihi scis, et discedere tristem,
quandocumque trahunt invisa negotia Romam.

(*f*) Ne vulgo narres, te sudavisse ferendo
Carmina, quae possint oculos auresque morari
Cæsaris; oratus multa prece, nitere porro.
Vade, vale, cave ne titubes mandataque frangas.

4. Parse, giving the principal parts, the following verbs:—Mirabere, pendebat, vives, indutus, fruar, spectantia, vescere, comedenda, premat, frangas, plectuntur. (Give both forms of the last, with their Greek equivalents).

5. Account for the construction of the words in Italics in following extracts:—(1) Nullius addictus *jurare* in verba magistri. (2) Quo me cunque rapit tempestas, deferor *hospes*. (3) *Quidquid* delirant reges. (4) Nos

numerus sumus, et fruges *consumere* nati. (5) Si quid est *animum*. (6) Dimidium *facti*, qui cœpit, habet. (Give the corresponding Greek proverb. (7) *Rexque Paterque* audisti coram.

6. Write explanatory notes on :—(1) Donatum rude. 2) Armis Herculis ad postem fixis. (3) Hæc Janus summus ab imo prodocet, (4) Sirenum voces et Circae pocula. (5) Scripta Palatinus quæcunque recepit Apollo. (6) Caerite cera digni.

7. Write out the rules for the Sequence of the *Tenses* in Latin.

8. Give examples of the Genitive (1) of value ; (2) definition ; (3) partitive ; (4) objective ; (5) subjective.

9. Characterise the different poetical productions of Horace ; and say in which of them he appears to you to have been most successful.

INTERMEDIATE EXAMINATION.

LATIN PROSE COMPOSITION.

TUESDAY, APRIL 7TH :—MORNING, 9 TO 12.

Examiners,..... { REV. GEORGE CORNISH, LL.D.
REV. GEORGE WEIR, LL.D.

Translate into Latin :—

(A) It is related of the ancient Spartans that, when they conquered an army by means of stratagem, they sacrificed an ox to Mars ; but if open violence was used, only a cock ; and this it is said they did that they might encourage knavery, and shew their generals that valour was not the only thing required of them. No such practice was established among the Romans, but what value they set upon cunning in a general is evident from more than one passage of Cæsar, not to mention other historians ; and from what Tiberius said to ingratiate himself with the Roman people which was to the following effect :—That having been sent nine times by Augustus into different parts of Germany, he had always been victorious and generally managed matters so as to deceive the barbarians.

(B) When Epaninondas, the great Theban general, had conquered the Spartans in the battle at Mautinæa, and at the same time was conscious that he was dying from a fatal wound, which he had received in battle, as soon as he recovered his senses, he asked whether his shield was safe ; and when his weeping attendants replied that it was safe ; he asked, whether the enemy was routed. On receiving the answer that he desired to that question also, he ordered the spear by which he had been pierced to be pulled out ; and so, drenched with blood, he died, rejoicing and victorious.

THIRD YEAR.

LATIN.—PLAUTUS.--AULULARIA.

MONDAY, APRIL 13th :—MORNING, 9 TO 12.

Examiner ..... REV. GEORGE CORNISH, LL.D.

1. Translate :—

(A) ME. Quid nunc ? etiam mihi despondes filiam ? EU. Illis legibus,
cum illa dote, quam tibi dixi. ME. Sponden' ergo ? EU. Spondeo.
ME. Di bene vortant. EU. Ita di faxint. Illud facito ut memineris
convenisse, ut ne quid dotis mea ad te afferret filia.
ME. Memini. EU. At scio, quo vos soleatis pacto perplexarier:
pactum non pactumst, non pactum pactumst, quod vobis lubet.
ME. Nulla controversia mihi tecum erit. Sed, nuptias
hodie quin faciamus, numquae causast ? EU. Immo hercle optuma.
ME. Ibo igitur ; parabo. Numquid me vis ? EU. Istuc. ME Sic : vale.
Heus, Strobile, sequere propere me ad macellum strenue.
EU. Illic hinc abiit. Di inmortales, obsecro, aurum quid valet.
Credo ego illum iam inaudivisse, mihi esse thensaurum domi:
id inhiat, ea affinitatem hanc obstinavit gratia.

(B) EU. Id ubi tibi erat negotium, ad focum si adesses,
non fissile haberes caput. Merito id tibi factumst.
At ut tu meam sententiam iam noscere possis,
si ad ianuam huc accesseris, nisi iusso, propius,
ego te faciam, miserrumus mortalis ut sis.
Scis iam meam sententiam ? Quo abis ? redi rursum.
Co. Ita me bene Laverna amet, te iamiam nisi reddi
mihi vasa iubes, pipulo hic differam ante aedis.
Quid ego nunc agam ? Ne ego edepol veni huc auspicio malo :
nummo sum conluctus ; plus iam medico mercedist opus.

(C) EU. Fide censebam maxumam multo fidem :
sed ea sublevit os mihi penissume.
Ni subvenisset corvos, periissem miser.
Nimis hercle ego illum corvom, ad me veniat, velim,
qui indicium fecit, ut ego illic aliquid boni
dicam : nam quod edit, tam duim, quam perduim.
Nunc, hoc ubi abstrudam, cogito solum locum.
Silvani lucus extra murum est avius
crebro salicto oppletus ; ibi sumam locum.
Certumst, Silvano potius credam quam Fide.
STR. Euge, euge, di me salvom et servatum volunt.
Iam ego illuc praecurram atque inscendam aliquam in arborem,
et inde observabo, aurum ubi abstrudat senex.
Quamquam hic manere me erus sese iusserat,
certumst malam rem potius quaeram cum lucro.

2. Translate carefully the following extracts, adding an explanatory note on any peculiarity of construction :—(*a*) Nam hic apud nos nihil est aliud quaesti furibus. (*b*) Ita aequomst, quod in rem utrique arbitremur, et mihi te et tibi me consulere et monere. (*c*) Hau decorum facinus tuis factis facis, ut inopem atque innoxium abs te atque abs tuis me inrideas. (*d*) Quam ad probos propinquitate proxume te adjunxeris, tam optumumst. (*e*) Quid tibi meam tactio ?

3. Write explanatory notes on the meaning of the following phrases :—1) Exemi ex manu manubrium. (2) Foris crepuit (3) Sublevit os. (4) Abstinebit censione bubula. (5) Disputata est ratio. (6) Quam volsus ludiust. (7) Trium litterarum homo. (8) Cocus nundinalis. (9) Scribam dicam. (10) Laverna.

4. Explain the following words, both as to meaning and derivation : —Salutigerulos, aurifex, caupones, patagiarii, flammearii, propolæ, manulearii, phylacistæ, bellum, edepol, mecastor, secus.

5. Parse, and give the ordinary forms of :—Med, scibas, duim, Fide, mutassis, ausim, fuat, faxint, respexis, face, cedo, sis afferrier.

6. Explain the formation and meaning of the following :—Unde, clam pessum, frugi, foras, illuc, quin, palam, actutum, eccum, sicubi, quasi.

7. (*a*) State and exemplify the different uses of the Ablative case (*b*) Name the class of verbs which govern two Accusatives, and explain :—Cognate Accusative ; Accusative of Limitation ; Accusative of Motion towards ; Accusative of Time or Space. (c) Explain the Locative case, and show how it is formed in Latin, citing instances.

8. State the rules for turning sentences into the *obliqua oratio*, and turn the following, making each to depend upon "He said :"—(1) I shall expect to see you at Rome. (2) Follow me ; I will be your leader. (3) If I dared, I would go to Athens.

9. To what department of Greek Literature, and of what period, were the Latin comic poets indebted for the plots and characters of their plays ?

10. Turn into Latin : —

Ancus Marcius had a war with the Latins, and conquered them, and brought the people to Rome, and gave them the hill Aventinus to dwell on. He divided the lands of the conquered Latins amongst all the Romans ; and he gave up the forests near the sea, which he had taken from the Latins, to be the public property of the Romans. He founded the colony at Ostia, by the mouth of the Tiber. He built a fortress on the hill Janiculum, and joined the hill to the city by a wooden bridge over the river. He secured the city in the low grounds between the hills by a great dyke, which was called the dyke of the Quirites ; and he built a prison under the hill Saturnius, towards the Forum, because, as the people grew in numbers, offenders against the laws became more numerous also. At last king Ancus died, after a reign of three-and-twenty years.

B.A. ORDINARY EXAMINATION.

LATIN. { TACITUS.—ANNALS, BOOK I.
JUVENAL.—SATT. VIII. AND X.

THURSDAY, APRIL 16TH:—MORNING, 9 TO 12.

Examiners, ... { REV. GEORGE CORNISH, LL.D.
REV. GEORGE WEIR, M.A.

1. Translate:

(A). Multa patrum et in Augustam adulatio. Alii Parentem, alii *Matrem patriæ* appellandam, plerique ut nomini Cæsaris adscriberetur Juliæ filius censebant. Ille moderandos feminarum honores dictitans eademque se temperantia usurum in iis quæ sibi tribuerentur, ceterum anxius invidia et muliebre fastigium in deminutionem sui accipiens, ne lictorem quidem ei decerni passus est aramque adoptionis et alia hujuscemodi prohibuit. At Germanico Cæsari proconsulare imperium petivit; missique legati qui deferrent, simul mœstitiam ejus ob excessum Augusti solarentur. Quo minus idem pro Druso postularetur, ea causa quod designatus consul Drusus præsensque erat. Candidatos præturæ duodecim nominavit, numerum ab Augusto traditum; et hortante senatu ut augeret, jure jurando obstrinxit se non excessurum.

(B) Præmisso Cæcina, ut occulta saltuum scrutaretur pontesque et aggeres humido paludum et fallacibus campis imponeret, incedunt mœstos locos visuque ac memoria deformes. Prima Vari castra lato ambitu et dimensis principiis trium legionum manus ostentabant; dein semiruto vallo, humili fossa accisæ jam reliquiæ consedisse intellegebantur: medio campi albentia ossa, ut fugerant, ut restiterant, disjecta vel aggerata. Adjacebant fragmina telorum equorumque artus, simul truncis arborum antefixa ora. Lucis propinquis barbaræ aræ, apud quas tribunos ac primorum ordinum centuriones mactaverant. Et cladis ejus superstites, pugnam aut vincula elapsi, referebant hic cecidisse legatos, illic raptas aquilas; ubi primum vulnus Varo adactum, ubi infelici dextera et suo ictu mortem invenerit; quo tribunali concionatus Arminius, quot patibula captivis, quæ scrobes; utque signis et aquilis per superbiam illuserit.

Igitur Romanus qui aderat exercitus, sextum post cladis annum, trium legionum ossa, nullo noscente alienas reliquias an suorum humo tegeret, omnes ut conjunctos, ut consanguineos, aucta in hostem ira, mœsti simul et infensi condebant.

2. (*a*) Write short explanatory notes on the following in ext. (B):—(1) Pontes et aggeres. (2) Semiruto vallo, humili fossa. (3) Barbarae arae. (4) Patibula, scrobes. (*b*) Point out peculiaraties in the choice of words or in grammatical construction in the same ext. (*c*) Utque signis inluserit:—Construe and note other constructions with this same verb. (*d*) Give the dates of the events referred to in ext (B). (*e*) trium legionum:—estimate the number of men implied.

3. Translate the following extracts, adding an explanatory note, grammatical or otherwise, where you deem it to be needed, and express (*a*) and (*d*) in *oratio recta* both in Latin and in English.

(*a*) Mederetur fessis, neu mortem in isdem laboribus, sed finem tam exercitae militiae neque inopem requiem orabant.

(*b*) Pergere ad Treviros et externae fidei.

(*c*) Segestes discors manebat, auctis privatim odiis, quod Arminius filiam ejus alii pactam rapuerat, gener invisus inimici soceri.

(*d* Neque probis temperabat: egregium patrem, magnum imperatorem, fortem exercitum, quorum tot manus unam mulierculam avexerint. Sibi tres legiones, totidem legatos procubuisse. Non enim se proditione, neque adversus feminas gravidas, sed palam adversus armatos bellum tractare.

4. Translate :—

(C) Et vos *Trojugenæ*, vobis ignoscitis, et quæ
Turpia cerdoni, Volesos Brutumque decebunt.
Quid, si nunquam adeo fœdis adeoque pudendis
Utimur exemplis, ut non pejora supersint?
Consumtis opibus vocem, Damasippe, locasti
Sipario, clamosum ageres ut *Phasma Catulli*.
Laureolum velox etiam bene Lentulus egit,
Judice me dignus *vera cruce*. Nec tamen ipsi
Ignoscas populo: populi frons durior hujus,
Qui sedet et spectat triscurria patriciorum,
Planipedes audit Fabios, ridere potest qui
Mamercorum alapas. Quanti sua funera vendant,
Quid refert? Vendunt nullo cogente Nerone,
Nec dubitant *celsi prætoris* vendere ludis
Finge tamen gladios inde, atque hinc pulpita pone:
Quid satius? Mortem sic quisquam exhorruit, ut sit
Zelotypus Thymeles, stupidi collega Corinthi?

(D) Ut tamen et poscas aliquid, voveasque sacellis
Exta, et candiduli divina tomacula porci:
Orandum est, ut sit mens sana in corpore sano.
Fortem posce animum, mortis terrore carentem,
Qui spatium vitae extremum inter munera ponat
Naturae, qui ferre queat quoscunque labores,
Nesciat irasci, cupiat nihil et potiores
Herculis aerumnas credat saevosque labores
Et Venere et cœnis et pluma *Sardanapali*.
Monstro quod ipse tibi possis dare: semita certe
Tranquillae per virtutem patet unica vitae.
Nullum numen abest, si sit Prudentia: nos te,
Nos facimus, Fortuna, Deam cœloque locamus.

5. Explain briefly the words in italics in extt. (C) and (D), and construe 'ut tamen et poscas.'

6. Translate the following extt., showing their connection with the context, and adding an explanatory note when you deem it necessary:—

(*a*) Libera si dentur populo suffragia, quis tam
Perditus, ut dubitet Senecam praeferre Neroni;
Cujus supplicio non debuit una parari
Simia, nec serpens unus, nec culeus unus?

(*b*) Exspectata diu tandem provincia quum te
Rectorem accipiet, pone irae fraena modumque,
Pone et avaritiae: miserere inopum sociorum;
Ossa vides regum vacuis exsucta medullis.

(*c*) Malo pater tibi sit Thersites, dummodo tu sis
Æacidae similis Vulcaniaque arma capessas,
Quam te Thersitae similem producat Achilles.

(*d*) Prima mihi debes animi bona: sanctus haberi
Justitiaeque tenax factis dictisque mereris,
Agnosco procerem.

(*e*) Sed facilis cuivis rigidi censura cachinni:
Mirandum est unde ille oculis suffecerit humor.

7. Write short explanatory notes on:—(1) Multa contingere virga. (2) Funestat gentem. (3). Nanum. (4) Sub aggere texit. (5) Cecropides. (6) Ducunt epiredia. (7) Sensus communis. (8) Ostrea Gaurana. (9) Perdere naulum. (10) Gallicus axis. (11) Idumaeae portae. (12) Mirmillonis in armis.

8. In what connection are the names, Seneca, Lateranus, Sejanus, Cicero, Demosthenes, Hannibal, Alexander The Great, Lucretia, Virginia, and Messalina introduced into the Xth Satire.

B. A. ORDINARY EXAMINATION,

GREEK AND ROMAN HISTORY.

LATIN PROSE COMPOSITION.

FRIDAY, APRIL 17TH:—MORNING, 9 TO 12.

Examiners,..... { REV. GEORGE CORNISH, LL.D.
REV. GEORGE WEIR, LL.D.

(N.B.—*Candidates taking both Greek and Latin may omit any two of the questions in groups A and B.*)

(A) (*The Athenian Supremacy*)

1. Trace the rise and growth of the Athenian Supremacy. At what period had it reached its culmination?

2. Describe the policy of Athens towards the dependent states; and point out how its tendency was to weaken rather than to strengthen her position.

3. Trace the causes which led to the Peloponnesian War, and show what grounds either party had for anticipating success.

4. The political life and character of Alcibiades, and his influence on the destinies of his country.

5. An account of the government:—(1) Of the Four Hundred; and (2) of the Thirty.

6. Name the leading poets, prose-writers, and artists of this period.

(B) (*The Twelve Cæsars*)

1. Give a review of the political situation at Rome in the years 52—49 B. C., indicating what causes were operating for the establishment of the Monarchy, and Cæsar's policy in reference thereto.

2. Note the steps by which Octavius gained supreme power, and describe his general policy and administration, domestic and foreign.

3. Describe the character of Tiberius as represented by Tacitus. Is it an impartial characterization?

4. Name, giving dates, and describe generally, the three successors of Tiberius.

5. One year saw four Emperors successively on the throne—name the year and the Emperors.

6. A short account of the Emperors of the Flavian house.

(C) Translate into Latin:—

The poets, who have spoken of Philoctetes, the son of Pœas and Demonassa, have feigned that he was the armour-bearer of Hercules, and received from him the arrows that had been dipped in the poisonous blood of the Hydra. His foot was wounded either by the fall of one of these arrows or by the bite of the serpent; and so disagreeable a smell did this wound occasion, that the Greeks, with whom he was going to Troy, removed him from them and left him in the island of Lemnos. There he was suffered to remain, until it was found that Troy could not be taken without him. Ulysses and Diomede were then sent to bring him to the Grecian camp; but it was with the utmost difficelty that he was prevailed upon to accompany them, for length of time had not made him forget how ill he had been used.

THIRD YEAR EXAMINATION FOR HONOURS IN CLASSICS.

GREEK.

WEDNESDAY, APRIL 22ND :—MORNING, 9 TO 12.

Examiners,..... .....REV. GEORGE CORNISH, LL.D.

1. Translate the following extracts, adding an explanatory note where you deem it necessary :—

(A) Plato, The Republic, Book I. :—Chap. xix. down to *τοῦ κρείττονος συμφέρον.*

2. (*a*) Write a summary of the 1st Book. (*b*) *ἐπαιζεν ἅμα σπουδάζων*? —Translate and comment on this saying of Xenophon's touching Socrates, and illustrate from this book. (*c*) Write short biographical notes of not more than three lines each explanatory of the following references :—*Νικίου, Λυσίαν, Σιμωνίδην, Βίαντα, Περιάνδρου.*

3. (*a*) Explain the use of *ὡς* in Chap. 1, *ὡς ἀπὸ τῆς πομπῆς, ὡρμῆσθαι ὡς ἀπιόντες.* (*b*) Explain the following idioms or constructions : (1) *τῆς ζημίας μεγίστη.* (2) *θαυμαστως ὡς.* (3) *ἀγασθεὶς αὐτοῦ εἰπόντος ταῦτα.* (4) *οἶμαι σου τοὺς πολλούς οὐκ ἀποδέχεσθαι.* (*c*) *τὴν παλαιὰν παροιμίαν* :—Give the proverb in Greek, and its Latin and English equivalents. (*d*) parse the following verbs : —*ἠ, ἐωράκη, ἐπεπόνθη, καθῆστο, ἤδησθα, ἀποκρινοῖο.*

4. Translate :—

(B) Xenophon, Hellenics, Book I. :—Chap. vii. §§ 20—24, inclusive.

5. (*a*) *Καὶ οὐκ ἀδικοῦντες ἀπολοῦνται*? :—Explain. (*b*) What were the illegalities involved in the trial and execution of the generals ? (*c*) What was their real offence ?

6. Translate :—

(*C*) Aeschylus, Prometheus Vinctus vss 887–906.

7.(*a*)Give the proverb and the name of its inventor to which reference is made in ext. (C). (*b*) *ἄπορα πόριμος*, —what figure of rhetoric ? Cite other instances from this drama. What case is *ἄπορα*, and why ? (*c*) Parse the following words, giving the Attic equivalents for such as are non-Attic :—*προσδράκοι, πλαθείην, ἄνωγε, δάπεδα, ᾔξας, ἰώτατι, προυσελούμενον, ἀσμένῳ.*

8. Translate :—

(D) Aristophanes, The Frogs :—(*a*) vss. 353–371. (*b*) vss. 1482–1499.

9. (*a*) Name and give the scheme of the metres used severally in the above extt., and scan the first four vss. of each. (*b*) Note the per-

sonal and political references of ext. (*a*). (*c*) What was the ground of Aristophanes' antipathy to Euripides. (*d*) Enumerate the extant dramas of Aristophanes, and give the date of the Frogs.

10. (*a*) What is the Parabasis? Describe its different parts. Is the Parabasis of the Frogs complete. (*b*) Explain the following:—(1) *τὴν περὶ τῶν κρεῶν.* (2) *Φρυνίχου παλαίσμασιν.* (3) *οὐ Χῖος ἀλλὰ Κεῖος.* (4) *υἱος Σταμνίου.* (5) *ἀναγιγνώσκοντί μοι τὴν Ἀνδρομέδαν.* (6) *ἀναπαύλας, ἐκτροπάς* (express in Latin). (7) *Διὸς Κόρινθος.* (8) *Θρηκία χελιδών.* (9) *Κιμωλίας γῆς.* (10) *Μαμμάκυθοι.*

11. Into what periods is Attic Comedy divided? Give the leading names of each period.

12. Accentuate the following:—

(E) *οι δ' Αθηναιοι κατα ποδας πλεοντες ωρμισαντο της Χερρονησου εν Ελαιουντι ναυσιν ογδοηκοντα και εκατον. ενταυθα δη αριστοποιουμενοις αυτοις αγγελλεται τα περι Λαμψακον, και ευθυς ανηχθησαν εις Σηστον. εκειθεν δ' ευθυς επισιτισαμενοι επλευσαν εις Αιγος ποταμους αντιον τῆς Λαμψακου. διεχει δ' ο Ελλησποντος ταυτῃ σταδιους ως πεντεκαιδεκα. ενταυθα δε εδειπνοποιουντο.*

LATIN.

FRIDAY, APRIL 24TH:—MORNING, 9 TO 12.

Examiner,.....REV. GEORGE CORNISH, LL.D.

1. Translate, adding an explanatory note where you deem it necessary, the following passages:—

(A) Tacitus, Histories I., chap. lxxix.

2. (*a*) Define the geographical position of the districts occupied by the Sarmatae. What was their ethnological relationship, and what people have been cited as their modern representatives? (*b*) Define the position, and give modern names where you can, of the following:—Rubrum mare, Forum Julium, Magnetes a Sipylo, Insula Planasia, Lugdunensis colonia, Colonia Agrippinensis, Divodurum, Treveri, Aventicum, Mutina. (*c*) Characterize the style of Tacitus, enumerate his writings, and distinguish between *Annales* and *Historiæ*.

3. Translate:—

(B) Persius, Sat. V., vss. 19-29; VI., 43-55.

4. (*a*) "*Pullatis*":—give the variant and translate accordingly. (*b*) Write explanatory notes on the following:—(1) Insulso Glyconi. (2) Camena. (3) Suburra. (4) Candidus umbo. (5) Fruge Cleanthea. (6)

Tesserula. (7) Tressis agaso. (8) Satyrum Bathylli. (9) Lubrica Coa. (10) Cor Enni. (11) Sapere hoc maris expers. (12) Exossatus ager. (*c*) Comment an the style of Persius. Whom did he take as his model?

5. Translate :—

(C) Juvenal, Sat. X., vss. 147-167.

6. In what respects are this account and estimate of Hannibal faulty, and to what would you attribute this? (*b*) Explain:—(1) Pila, cohortes, egregios equites et castra domestica. (2) Totis Quinquatribus. (3) Gabiorum potestas. (4) Si Nurtia Tusco favisset. (5) Defossa in loculis quos sportula fecit amicos.

7. Translate from Sat. VIII. the following extracts, adding an explanatory note on various readings, grammatical construction, historical references, or social usages, as you may think necessary :—

(*a*) Vss. 6-9. (*b*) Vss. 48-50. (*c*) Vss. 96—97. (*d*) Vss. 140—141. (*e*) Vss. 232-234. (*f*) Vss. 240-243.

8. Translate:—

(D) Plautus, Aulularia, Act. IV., sc. 6.

4. (*a*) Discrucior *animi; animo* male est; *cum animo* investigare:—Explain these usages, severally. (*b*) In vss. 1 and 10 of ext. (B), Wagner edits *Fide* instead of *Fidei*:—Can you cite any instances from Horace or Virgil of similar terminations in nouns of the 5th Decl.? (*c*) Explain the meaning of:—Vestitu et creta; sublevit os; foris crepuit; adii manum; sycophantias; laterna Punica; putatur ratio; Gallicis cantheriis; trifurcifer. (*d*) Explain the following forms:—adaxit, scin, respexis, duit, quoi, med, tuaï, faxo, pote, fuat, temperi, injuriumst. (*e*) Write down the scale of the metre, and scan vss. 1-4 of ext. (D).

9. Translate:—

(E) Caeterum ut humanae virtutis actum exsequamur, cum Annibal Capuam, in qua Romanus exercitus erat, obsideret, Vibius Accuaeus, Pelignae cohortis praefectus, vexillum trans Poenicum vallum proiecit, seipsum suosque commilitones, si eo hostes potiti essent, exsecratus: et ad id petendum subsequente cohorte, primus impetum fecit. Quod ut Valerius Flaccus, tribunus tertiae legionis aspexit, conversus ad suos, Spectatores, inquit, ut video, alienae virtutis huc venimus: sed absit ho dedecus a sanguine nostro, ut Romani gloria cedere Latinis velimus. Ego certe aut speciosam optavi mortem, aut felicem audaciae exitum. Vel sotus igitur praecurrere paratus sum. His auditis, Pedanius Centurio, convulsum signum dextra retinens: Iam hoc, inquit, intra hostile vallum mecum erit: proinde sequantur, qui id capi nolunt: et cum eo in castra Poenorum irrupit, totamque secum traxit legionem. Ita trium virorum fortis temeritas Annibalem, paulo ante spe sua Capuae potitorem, ne castrorum quidem suorum potentem esse passa est. *Valerius Maximus.*

GREEK AND LATIN PROSE COMPOSITION.

TUESDAY, APRIL 7TH :—MORNING, 9 TO 12.

Examiner, ... REV. GEORGE CORNISH, LL.D.

(A) Translate into Greek :—

And when Alcibiades with much booty had come to the camp, he proceeded with all his forces to surround Chalcedon from sea to sea with a stockade. Thereupon Hipparchus, the Lacedæmonian governor, led forth his troops out of the city, with the intention of offering battle; and the Athenians drew themselves up in battle array against him; whilst Pharnabazus came hurrying to his assistance with his forces and with many horsemen. Accordingly Hippocrates and Thrasyllus, each with his heavy-armed infantry, continued the engagement for a long time, until Alcibiades, with a force of heavy-armed infantry and his cavalry, came to the assistance of Thrasyllus. And Hippocrates was slain, and those under his command fled into the city.

(B) Translate into Latin :—

1. To this the general answered that he could not help recollecting the great cruelty with which his soldiers had been treated by the enemy at the taking of Nola, seven years ago. "Now," he said, "nothing but compassion prevents me from destroying all of you to a man. You have not enough food to satisfy you, not enough even to keep off famine. Whether you are assisted by the Romans or not, it matters little; all of you must perish." Upon this, the ambassadors, bursting into tears, promised that their countrymen should give all they had to the soldiers if only their lives were spared. They did not say that they had not deserved death; for if they had said so, it would have been of little use; but they flung themselves at the general's feet, and again and again begged for pardon. He heard them in silence, without raising them, or appearing in any way to be touched by their calamities.

2. Whilst Xenophon was performing the customary sacrifice, he received the intelligence that the elder of his two sons, named Gryllus, had fallen n the battle at Mantinea. He did not, however, consider this a sufficient reason for omitting the appointed worship of the gods, but deemed it sufficient to lay aside his sacrificial crown. He then inquired how he had met his death; and was told that he had fallen whilst fighting with the utmost bravery. He, therefore, replaced the crown upon his head, calling the gods to whom he was sacrificing to witness that the pleasure he received at the valour of his son exceeded the grief occasioned by his death.

GREEK AND ROMAN HISTORY.

Grote :—Vols. I.-III.

Mommsen :—Vol. I.

Arnold : — Vols. I.-III.

MONDAY, APRIL 20TH :—MORNING, 9 TO 12.

Examiner,.....REV. GEORGE CORNISH, LL.D.

1. Give a general account of the nations of Asia Minor with whom the Greeks came into contact, and point out in what ways the Greeks were influenced by this intercourse.

2. (*a*) The Pan-Hellenic festivals; their uses and effects on the Greek mind. (*b*) After the year B. C. 560 new causes began to operate favouring union among the several States :—comment on and explain this statement of Grote's.

3. Describe, severally, and distinguish between Greek and Roman colonization.

4. State the political causes which led to the Persian wars, enumeratine the leading States of Greece and defining the parts they took in the struggle.

5. The Reforms of Cleisthenes in the Athenian Constitution.

6. "On this Roman household was based the Roman state, as respected both its constituent elements and its form :"—describe the household and give a summary of Mommsen's account of the original Constitution of Rome.

7. The political and commercial relations of Italy with foreign nations.

8. Describe the changes in the Constitution after the Abolition of the Monarchy, and show how the Orders became equalised and the "New Aristocracy" arose.

9. The ethnology of the Gauls, and their migrations into Italy.

10. What progress had been made in Art and Science previous to the union of Italy under the government of Rome?

MATHEMATICS AND NATURAL PHILOSOPHY.

FIRST YEAR.

EUCLID—ARITHMETIC.

TUESDAY, APRIL 14TH, 1885:—MORNING, 9 TO 12.

Examiners, ALEXANDER JOHNSON, LL.D. G. H. CHANDLER, M.A.

Write the answers on two distinct sets of paper, headed A and B respectively to correspond to the questions.

A.

1. In what two senses is the word "part" employed by Euclid? Enunciate a proposition in the 6th Book, in which the word occurs in the less usual sense.

2. Prove that triangles which have the same altitude are to one another as their bases, stating first the definition on which the proof depends.

3. Two triangles which have an angle in each equal, and the sides about them reciprocally proportional are equal in area.

4. Prove that if the opposite angles of a quadrilateral are together equal to two right angles a circle may be circumscribed to the quadrilateral.

5. Extract the square root of 3.14159.

6. Divide $153 among five persons in the proportion of the fractions $\frac{1}{3}, \frac{1}{4}, \frac{1}{5}, \frac{1}{6}, \frac{1}{7}$.

B.

7. Give the definitions of a right angle, an acute-angled triangle, a rhombus, parallel straight lines, a multiple, and duplicate ratio.

8. If a straight line be divided into two equal, and also into two unequal, parts, the squares on the two unequal parts are together double of the square on half the line and of the square on the line between the points of section.

9. Of straight lines which can be drawn from a point within a circle to the circumference the greatest is that which passes through the centre.

10. Inscribe a circle in a given equilateral and equiangular pentagon.

11. If four straight lines be proportionals the rectangle contained by the extremes shall be equal to the rectangle contained by the means.

12. The simple interest on a certain sum for 9 months at 5 per cent. per annum is $2.00 less than the simple interest on the same sum for 15 months at 4 per cent. per annum; what is the principal?

FIRST YEAR.

TRIGONOMETRY—ALGEBRA.

WEDNESDAY, APRIL 15TH:—MORNING, 9 TO 12.

Examiners, ALEXANDER JOHNSON, LL.D. / G. H. CHANDLER, M.A.

Write the answers on two distinct sets of papers, headed A and B respectively to correspond to the questions.

A.

1. Define a *radian*. Find how many radians there are in 60°.

2. Define sine, cosine and tangent as *lines* and as *ratios* respectively, and trace their changes of sign as the angle varies from 0° to 360°.

3. In any triangle prove

$$\text{Cos } \tfrac{1}{2} A = \sqrt{\frac{s(s-a)}{bc}}.$$

4. The first digit of a certain number exceeds the second by 4, and when the number is divided by the sum of the digits, the quotient is 7, find it.

5. Find the least common multiple of

$$6(x^2y+xy^2), \quad 9(x^3-xy^2), \quad 4(y^3+xy^2).$$

6. Solve the simultaneous equations

$$x+y=6$$
$$x^3+y^3=72.$$

B.

7. Prove the rule for finding the greatest common measure of two quantities.

8. Show that $(2\sqrt{3}+3\sqrt{2}+\sqrt{30}) \div \sqrt{6} = \sqrt{2}+\sqrt{3}+\sqrt{5}$, and that $\sqrt{75}$, $\sqrt[3]{\frac{4}{75}}$, and $(144)^{-\frac{1}{4}}$ are similar surds.

9. Solve the equations:

(*a*) $\dfrac{x-3}{x+2} = \tfrac{1}{2} + \dfrac{x-3}{2x-1}$,

(*b*) $x^2 = a(a-x)$,

(*c*)
$$\begin{cases} \dfrac{1}{x} + \dfrac{1}{y} = 1 \\ \dfrac{1}{y} + \tfrac{1}{2} = \tfrac{1}{2} \\ \tfrac{1}{2} + \dfrac{1}{x} = \tfrac{1}{3} \end{cases}$$

(*d*)
$$\begin{cases} 2(x-y) = 11 \\ xy = 20 \end{cases}$$

10. Prove that

(*a*) $\sin^2 A + \cos^2 A = 1$

(*b*) $\tan A = \frac{\sin A}{\cos A}$

(*c*) $\cos (180° - A) = -\cos A$.

11. Write down the expressions for the sine of the sum and the sine of the difference of two angles, and prove one of the formulæ.

(*a*) Show that

$$\text{Sin}\,(A + B) \,.\, \sin\, A - B) = (\sin A + \sin B) \,.\, (\sin A - \sin B).$$

12. The sides of a triangle are 5, 8 and 11 inches; find the area of triangle and the radius of the inscribed circle.

INTERMEDIATE EXAMINATION.

EUCLID—ARITHMETIC.

MONDAY, APRIL 13TH:—MORNING, 9 TO 12.

Examiner,.....J. RALPH MURRAY, B.A.

1. Define the following:—*Circle, segment of a circle, obtuse-angled triangle, acute-angled triangle, parallel straight lines, parallelogram, angle in a segment, sector of a circle, similar segments, ratio, proportion, lemma, problem, theorem.* Distinguish between *equal triangles* and *triangles equal in every respect.*

2. Prove that all the internal angles of any rectilinear figure, together with four right angles, are equal to twice as many right angles as the figure has sides.

3. The line joining the points of bisection of the sides of a triangle is parallel to the base.

4. In a right-angled triangle the square described on the hypotenuse is equal to the sum of the squares described on the sides.

5. If a right line be cut into equal parts, and also into unequal parts, the sum of the squares of the unequal parts is equal to double the sum of the squares of the half and of the intermediate part.

6. Show how to draw a common tangent to two given circles.

7. Show how to construct an isosceles triangle, in which each of the angles at the base shall be double of the vertical angle.

8. Triangles having the same altitude are to one another as their bases.

9. If the base and ratio of the sides of a triangle be given find the *locus* of the vertex.

10. Required the compound interest upon £410 for $2\frac{1}{2}$ years at $4\frac{1}{2}$ per cent. per annum, the interest being payable half-yearly.

11. A rectangular tank is 14 feet long and 10 feet wide. What must be its depth that it may just contain $31\frac{1}{4}$ tons of water ?

N.B.—A cubic foot of water weighs 1,000 oz.

12. Which is the greater and by how much : $.\dot{1}2\dot{7}$ of *s.* *d.* 18 4, or $\frac{2}{7}$ of *s.* *d.* 9 4 ?

13. Extract the cube root of 493,039.

14. Extract the square root of 236,196.

15. A cistern is filled by two pipes in 18 and 20 minutes respectively, and emptied by a tap in 40 minutes ; what part of it will be filled in 10 minutes when all are opened at the same instant.

INTERMEDIATE EXAMINATION.

TRIGONOMETRY—ALGEBRA.

TUESDAY, APRIL 14TH :—MORNING, 9 TO 12.

Examiner,.....J. RALPH MURRAY, B.A.

1. Define the two units of angular measure commonly employed, and find the ratio of the greater to the less.

2. The sun's diameter subtends at the earth an angle of 32′ 03″ ; calculate its diameter, supposing the distance of the sun to be 92,000,000 miles.

3. Show how to find the sine of 1″.

4. Prove the formula :

$$Cos.\ (A—B) = cos\ A\ cos\ B + sin\ A\ sin\ B.$$

5. Reduce $cos^4\ A—sin^4\ A$ to a single trigonometrical function.

6. In a plane triangle prove the relation :

$$\frac{a}{sin\ A} = \frac{b}{sin\ B} = \frac{c}{sin\ C}$$

7. If $sec\ A = 1\frac{3}{20}$, calculate $sin\ A$.

8. Prove the formula for the area of a triangle in terms of the sides.

9. Wishing to ascertain the height of a church steeple, I select two stations in line with it, and 52 yds. apart; at these stations I find the elevations to be 58° 14′, and 36° 42′ respectively; the height of my eye above the ground is 4 ft. 6 in.; what is the height of the steeple?

10. A person sold a horse for £24, thereby losing as much per cent. as it cost. What was the prime cost?

11. Resolve $a^2\ xy^3 - x^5\ y$ and $x^2 + -12$ into elementary factors, and extract the square root of $1 - 6x + 15x^2 - 20x^3 + 15x^4 - 6x^5 + x^6$.

12. Find the *G. C M.* of

$$a(a-1)x^2+(2a^2-1)x+a(a+1) \text{ and}$$
$$(a^2-3a+2)x^2+(2a^2-4a+1)x+a(a-1).$$

13. *α.* Find the value of

$$x^3-x^2+3x+5, \text{ when } x=1+2\sqrt{-1};$$

β. Simplify,

$$\frac{1}{a^2-2}-\frac{2}{a^2-1}+\frac{2}{a^2+1}-\frac{1}{a^2+2}.$$

14. If $\frac{a}{b}=\frac{c}{d}=\frac{e}{f}$, show that

$$\frac{a}{b}=\frac{a+c+e}{b+d+f}=\frac{ma+nc+pe}{mb+nd+pf}.$$

15. Prove that when any quadratic is reduced to the form

$$x^2+px+q=o$$

$-p$ = the sum of the roots, and q = the product of the roots.

THIRD YEAR.

MECHANICS, HYDROSTATICS.

WEDNESDAY, APRIL 1ST:—MORNING, 9 TO 12.

Examiner,.....ALEXANDER JOHNSON, LL.D.

1. If the directions of two forces intersect, the moments of the forces with regard to any point on their resultant are equal and opposite.

(*a*) State a more general theorem which includes this.

2. Three forces of 3, 4 and 5 lbs. respectively, meeting in a point, are in equilibrium, find the angles between them.

3. A body whose weight is 40 lbs. is kept at rest on inclined plane (angle of inclination = 30°) by a force of 30 lbs.; find the angle which the direction of the force makes with the perpendicular to the plane, proving your method.

4. Describe Simeatons pulley, with the aid of a diagram, and find the pressure on the fixed beam.

5. An engine of 20 horse-power is employed to pump water to a height of 60 feet to supply a town of 5,000 houses with water, at the rate of 80 gallons per house; how long must the engine work each day.

6. How is the equation $W = mg$ proved? Define constant force. Prove the equation $Fs = \frac{mv^2}{2}$ (where $F = mf$) explaining its meaning.

7. In what time will a body falling *in vacuo*, acquire a velocity of 400 feet a second, if it start from rest?

8. One end of a perfectly smooth stiff wire on which a bead is strung is fastened to the ceiling at one corner of a room, 12 feet high; the other end is attached to the floor at the opposite corner, and the wire hangs in a curve; the bead is allowed to slide the whole length of the wire; find its velocity on reaching the floor.

9. State Boyle and Marcotte's law, and describe the experimental proof.

10. Explain the method of finding the specific gravity of a solid body higher than water.

11. If the diameter of the piston of a suction pump be (a) inches, and the height of the water in the head of the pump be (b) feet above the well, investigate a formula for determining the pressure in the piston.

12. A closed vessel filled with fluid, has a piston fitting an aperture in it whose area is 3 square inches; a pressure of 96 lbs. is applied to the piston, find the pressure transmitted to a part of the surface of the vessel whose area is 1.75 square inches.

THIRD YEAR.

DESCRIPTIVE ASTRONOMY, OPTICS.

THURSDAY, APRIL 2ND:—MORNING, 9 TO 12.

Examiner,..... .....ALEXANDER JOHNSON, LL.D.

1. Explain the cause of eclipses of the Sun, naming the three kinds. Describe some of the phenomena of a total eclipse. Why are total eclipses so rare at any one place? In what direction does the shadow sweep across the Earth?

2. In what time does the Moon travel round the Earth? In what time does she go through all her phases? Why are these times different?

3. Why is it that in the phases shortly before or after new moon, we sometimes see the dark part of the moon faintly visible?

4. Define latitude and longitude on the terrestrial globe, equator, meridian, parallel of latitude.

5. It is said that the work of the world is done indirectly by the sun. Exemplify this statement.

6. Explain the protuberance of the Earth at the equator on mechanical principles.

7. State the laws of reflection and refraction of light, and describe experiments illustrating them.

8. Define total reflection, and describe an experiment illustrating it.

9. Investigate a formula connecting the distances of a luminous point and its conjugate focus from a concave mirror.

10. Find the principal focus of a double convex lens of glass whose curvatures are equal.

11. Define and find the centre of a lens.

12. Find the magnifying power of a refracting astronomical telescope whose object glass is of 10 feet focal length, and eye-glass of $\frac{1}{2}$ inch, used by a person whose least distance of distinct vision is 3 inches.

B. A. ORDINARY EXAMINATION.

MECHANICS—HYDROSTATICS.

FRIDAY, APRIL 10TH:—MORNING, 9 TO 12.

Examiners,..... { ALEXANDER JOHNSON, LL.D.
J. R. MURRAY, B.A.

Write the answers on two distinct sets of papers headed A and B respectively, to correspond to the questions.

A.

1. State the principle of "constancy of work done. Apply it to determine the ratio of the power to the resistance in the case of the screw.

2. A body of 8 lbs. weight is pushed along a smooth horizontal plane by a uniform horizontal pressure of 10 lbs.; find the velocity acquired in one second.

3. A body weighs 1,000 lbs. in a place whose latitude is 45°; find a formula to determine what would be its weight if the Earth's rotation did not influence it, and calculate the diminution.

4. A body floats in one fluid with $\frac{3}{4}$th of its volume immersed, and in another with $\frac{4}{5}$th immersed; find the ratio of the specific gravities of the two fluids.

5. If the volume of the receiver and leading tube of an air pump be 3 times that of the pump, calculate the elastic force of the air after the 20th stroke, the height of the barometer being 30 inches.

6. If 200 cubic inches of gas whose temperature is 60° and pressure 30 inches be heated to 80°, and the pressure be diminished to 28 inches, what will be the new volume.

B

7. Find the resultant of two forces, 26 lbs. and 127 lbs. respectively, the angle between them being 76°.

7. A bar of uniform thickness weighs 10 lbs., and is 5 feet long; weights of 9 lbs. and 5 lbs. are suspended from its extremities; find the distance from the centre of the bar of the point on which it will balance.

9. The velocity acquired by a body in running down an inclined plane is equal to the velocity acquired in falling the height of the plane.

10. Describe any experiment showing the elasticity of gases.

11. Find the total pressure on the surface of a sphere, whose radius is $\frac{1}{2}$ inch, placed in a closed vessel filled with liquid, produced by a pressure of 4,000 grains on a piston whose radius is 1 inch.

12. How much of its weight will 1 cwt. of cast iron lose if immersed in water; the sp. gr. of cast iron being 7.25?

B. A. ORDINARY EXAMINATION.

ASTRONOMY—OPTICS.

MONDAY, APRIL 13:—MORNING, 9 TO 12.

Examiners,..... ..... { ALEXANDER JOHNSON, LL.D. / J. R. MURRAY, B.A.

Write the answers on two distinct sets of papers, headed A and B respectively, to correspond to the questions.

A.

1. Explain with the aid of a diagram the apparent path of Venus in the sky, accounting for the direct and retrograde motions. Distinguish between the periodic time and synodic period. How is the former determined.

2. Give an account of the November Meteors, explaining why they are more numerous at certain fixed periods than at other times, and stating any connection between them and comets.

3. State the leading phenomena of the tides at any place and account for them, defining tidal day, establishment of the port, range of tide, spring and neap tides.

4. Describe the Gregorian telescope, and find its magnifying power.

5. Define dispersive power, and find its amount for fluor spar ($\mu = 1{\cdot}434$,) the refractive indices of the red and violet rays being 1.429 and 1.439 respectively.

6. Define the centre of a lens, and find it.

B.

7. Investigate a method for finding the distance of the moon.

8. Define latitude and longitude for a place on the earth and for a star; Right Ascension, Declination, Azimuth, Altitude, Vertical Circles, Prime Vertical, First point of Aries.

9. How may the latitude of a given place be found by observations on a circumpolar star?

10. The distances of a focus, and its conjugate from a mirror are 40 ins. and 12 ins. respectively, and they both lie in front of the mirror; find the radius of the latter, and whether it is concave or convex.

11. Prove that,

$$\delta = (\mu - 1)\,\varepsilon,$$

Where δ is the deviation of a ray incident nearly perpendicularly upon a prism of small angle, ε the angle of the prison, and μ the refractive index.

12. Let the distance at which a short-sighted person can read a book with ease be $5\frac{1}{2}$ in., and let us suppose that he wishes to hold the book at 10 ins. from his eyes, what must the focal length of his spectacles be?

B. A. ORDINARY EXAMINATION.

ELECTRICITY — MAGNETISM — SOUND.

TUESDAY, APRIL 7TH:—MORNING, 9 TO 12.

Examiner,.....ALEXANDER JOHNSON, LL.D.

1. Define Electromotive Force. How is the term misleading? Assuming that the electro-motive force of a Groves' cell is 1.8 volt, and that its internal resistance is 0.3 ohm. calculate the strength of the current produced by 20 Groves' cells united *in series* (end to end) when the circuit is completed by a wire whose resistance is 10 ohms.

2. A single voltaic cell was connected with a tangent galvanometer and a resistance box. When the external resistance was 1.44 ohm, the deflection of the needles was 45° 30′ and when an additional resistance of one ohm was included in the circuit the deflection was 32° 20′ find the resistance of the cell.

3. Explain the manner in which a formula is obtained for calculating the horse-power of a Voltaic current.

4. Define induced currents, and state the laws of induction.

5. Describe a Grove's cell, explaining the reason for amalgamation.

6. Describe any experiment showing the production of a current by heat; describe also an instrument, founded on this, for detecting small amounts of heat.

7. Given a small unmagnetized steel bar, and a bar magnet, how would you magnetize the former? Explain the theory of the action.

8. Describe the process of slow discharge for a Leyden jar.

9. How is it shown that electricity is distributed on the surface only of bodies.

10. State the physical causes on which depend the *pitch*, *intensity*, and *quality* of a musical note.

11. Explain the manner in which a musical note is produced by a closed tube. Given a siren, tuning fork, and a closed tube of variable length how could the velocity of sound in air be measured?

12. Describe an experiment showing the *interference* of sound.

B.A. ORDINARY EXAMINATION.

(Experimental Physics, Additional Department.)

LIGHT—HEAT.

FRIDAY, APRIL 24TH :—MORNING, 9 TO 12.

Examiner,.....ALEXANDER JOHNSON, LL.D.

1. What is plane polarized light theoretically. State some of its physical properties.

2. Describe a Nicol's prism.

3. Define *depolarization*. Describe an experiment exhibiting it, and explain the phenomena.

4. Describe Fresnel's experiment with mirrors, showing the *interference* of light.

5. Account for the laws of refraction on the wave theory of light.

6. Define *Irradiation*, and illustrate it by examples.

7. Define *fluorescence*, and describe any experiment exhibiting it.

8. Account for the dark lines of the solar spectrum.

9. Describe Joule's method for determining the mechanical equivalent of heat, and give his result.

10. Define latent heat. Find what weight of steam at 100° C. is necessary to raise the temperature of 208 pounds of water from 14° C. to absolute 32°, the latent heat of steam being 540°.

11. Describe Dulong and Petit's method of finding the co-efficient of the expansion of mercury.

12. Describe an experiment showing the formation of vapours from liquids in a vacuum.

13. Describe any experiment showing that the intensity of radiant heat varies inversely as the square of the distance.

HONOUR EXAMINATIONS IN MATHEMATICS, &c.

FIRST YEAR.

ANCIENT GEOMETRY.

THURSDAY, APRIL 23RD :—MORNING, 9 TO 12.

Examiner,..... .....ALEXANDER JOHNSON, LL.D.

1. Define the reciprocal of a given line. Prove that if a perpendicular be drawn from the right angle of a right-angled triangle to the hypotenuse, the square on its reciprocal is equal to the sum of the squares on the reciprocals of the sides.

2. If a quadrilateral be not circumscribable by a circle, the rectangle under its diagonal is less than the sum of the rectangles under its opposite sides.

3. Given the base of a triangle, the difference of the sides, and the locus of the vertex a fixed straight line ; construct the triangle.

4. Describe a circle touching a given circle, passing through a given point, and having its centre in a given straight line passing through this point.

5. If perpendiculars be drawn from any point on the circumference of a circle to the sides of an inscribed quadrilateral, the rectangle under the perpendiculars on two opposite sides is equal to the rectangle under the other two perpendiculars.

6. A straight line is drawn from a given point to the circumference of a given circle, and divided so that the rectangle under the whole line, and its segment between the point of section and the given point is constant ; find the locus of the point of section.

7. To a given triangle escribe a parallelogram of a given area.

8. The rectangle under the sides of a triangle is equal to the square on the bisector of the vertical angle together with the rectangle under the segments of the base made by the bisector of the vertical angle.

9. Escribe a square to any triangle.

10. Given the base and the sum of the squares on the sides of a triangle. Find the locus of its vertex.

11. Draw a straight line from an angle of a triangle to the opposite side cutting off from the triangle any given area.

12. Given the base and the sum of the two sides of a triangle ; find the locus of the foot of the perpendicular from either end of the base on the bisector of the external vertical angle.

FIRST YEAR.

MODERN GEOMETRY.

FRIDAY, APRIL 24TH, 1885:—MORNING, 9 TO 12.

Examiner,.....ALEXANDER JOHNSON, LL.D.

1. State Pascal's Theorem for a hexagon inscribed in a circle, and reciprocate it.

2. Given the base and the sum of the sides of a triangle; the polar of the vertex with respect to one extremity of the base as origin always touches a fixed circle.

3. Through a given point without a given circle, any transversal is drawn cutting the circle, and a point taken on it such that the reciprocal of its distance from the given point is equal to the sum of the reciprocals of the intercepts between the given point and the circle; find the locus of the point of section.

4. The distances of any two points from the centre of a given circle are to one another as the distance of each point from the polar of the other.

5. The anharmonic ratio of four points in a straight line is equal to that of the pencil formed by their four polars.

6. If through any point inside or outside a circle secants be drawn, the straight lines joining the extremities of the chords intersect on the polar of that point.

7. Describe a circle passing through a given point and touching two given circles.

8. Every transversal drawn through a centre of similitude of two circles and intersecting both, is cut similarly by the circles, and the radii to two corresponding points are parallel.

9. The anharmonic ratio of four fixed tangents to a circle is constant. Prove this theorem and reciprocate it.

10. Any quadrilateral is divided by a straight line into two others; prove that the intersections of the diagonals of the three lie in a straight line.

11. If through a given point within any number of straight lines a transversal be drawn and a point taken on it, such that the reciprocal of its distance from the given point is equal to the sum of the reciprocals of the intercepts between the given point and the given lines; find the locus of the point of section.

12. Given the base and the ratio of the sides of a triangle, find the locus of the vertex.

FIRST YEAR.

THEORY OF EQUATIONS.—ALGEBRA.

FRIDAY, APRIL 24TH: — AFTERNOON, 2 TO 5.

Examiner,..... ALEXANDER JOHNSON, LL.D.

1 Apply Horner's method to determine the root lying between 3 and 4 of the equation

$$x^3 - 3x^2 - 2x + 5.$$

2. Solve the equation $2x^6 + x^5 - 13x^4 + 13x^2 - x - 2 = 0$.

3. The equation $f(x) = 0$ has or has not equal roots according as $f(x)$ and $f^1(x)$ have or have not a common measure which involves x.

4. A real root of the equation $f^1(x) = 0$ lies between every adjacent two of the real roots of the equation $f(x) = 0$.

5. If the roots of the equation $x^3 + px^2 + qx + r = 0$, be $a\ b\ c$, form the equation of which the roots are $\frac{a}{b+c}, \frac{b}{c+a}, \frac{c}{a+b}$.

6. If an equation with rational co-efficients has a root of the form $a + \sqrt{b}$ where $\sqrt{b}$ is a surd, prove that the equation has also a root $a - \sqrt{b}$.

7. Investigate the relation between the co-efficients of $f(x)$ and the roots of the equation $f(x) = 0$.

8. Remove the second term and solve the equation

$$x^3 - 18x^2 + 157x - 510 = 0.$$

9. By the method of indeterminate co-efficients show that

$$\frac{1}{x^6 - 1} = \frac{1}{6}\left\{\frac{1}{x-1} - \frac{1}{x+1} + \frac{x-2}{x^2-x+1} - \frac{x+2}{x^2+x+1}\right\}.$$

10. Show that the total number of combinations that can be formed out of $n + 1$ things is more than twice the number that can be formed out of n things.

11. Expand a^x in a series of powers of x.

12. Insert 6 harmonic means between 3 and $\frac{6}{23}$.

13. 17486 is in the denary, find the equivalent number in the senary scale.

14. Find two numbers whose product is equal to the difference of their squares, and the sum of their squares equal to the difference of their cubes.

SECOND YEAR.

ANALYTICAL GEOMETRY (I).

THURSDAY, APRIL 23RD:—MORNING, 9 TO 12.

Examiner,..... REV. PRINCIPAL LOBLEY, D.C.L.

1. Shew how to transform co-ordinates when the directions of the axes are changed, while the origin is unaltered.

2. Explain clearly what is meant by the *locus* represented by an equation; and state what various loci may be represented by an equation of the second degree.

3. Find the equation to a straight line in terms of the perpendicular drawn to it from the origin, the axes being rectangular.

4. Find the locus of the middle points of rectangles inscribed in a given triangle.

5. ABC is a triangle whose angles are given; A is fixed and B moves along a fixed straight line. Find the locus of C.

6. Find the angle between the two straight lines represented by $x^2 - pxy + qy^2 = 0$.

7. Show that if $A = C$, and $B = 2A \cos \omega$, (ω being the angle between the axes), the equation

$$Ax^2 + Bxy + Cy^2 + Dx + Ey + F = 0$$

represents a circle.

8. Find the equation to the tangent at the point (x^1, y^1) to a circle whose radius is c, the centre being the origin and the axes rectangular.

9. Given the base of a triangle and the ratio of its sides, find the locus of its vertex.

10. Find the length of the perpendicular from the origin upon the tangent at the point (x^1, y^1) to the ellipse whose equation is

$$\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$$

SECOND YEAR.

ANALYTICAL GEOMETRY (II).

THURSDAY, APRIL 23RD:—AFTERNOON, 2 TO 5.

Examiner, ...REV. PRINCIPAL LOBLEY, D.C.L.

1. Find the condition that the three points (x_1, y_1), (x_2, y_2), (x_3, y_3) may lie in one straight line.

2. Find the length of the tangent drawn from the point (x^1, y^1) to the circle whose equation is

$$(x - a)^2 + (y - b)^2 = c^2.$$

Hence find the equation to the locus of points from which equal tangents can be drawn to two given circles, and show that that locus is a straight line.

3. Prove that the rectangle contained by the focal perpendiculars on the tangent to an ellipse is constant, and equal to the square on the semi-axis minor.

4. Find the polar equation of an ellipse or hyperbola, with a focus as pole.

5. If any straight line cut an hyperbola the portions intercepted between the curve and the asymptotes are equal.

6. Find the locus of the intersection of tangents to a parabola which meet at right angles.

7. If from the vertex of an ellipse or hyperbola a radius vector be drawn to any point on the curve, find the locus of the point where a parallel radius through the centre meets the tangent at the point.

8. Find the locus of the pole of any fixed line with regard to a series of confocal and concentric conic sections.

9. Find the condition that two conics whose equations are given may touch one another.

10. Given four points on a conic; the polar of any other given point will pass through a fixed point.

SECOND YEAR.

DIFFERENTIAL AND INTEGRAL CALCULUS.

FRIDAY, APRIL 24TH—MORNING, 9 TO 12.

Examiner,.....REV. PRINCIPAL LOBLEY, D.C.L.

1. Explain clearly what is meant by the First Derived Function of $f(x)$. Why is this called the "differential coefficient" of $f(x)$?

2. Shew how to differentiate a product of functions.

3. Prove that the n^{th} derived function of $\sin mx$ is $m^n \sin\left(mx + \frac{n\pi}{2}\right)$

4. Enunciate Taylor's Theorem, and deduce Maclaurin's Theorem.

Expand $\frac{e^x}{\cos x}$ in ascending powers of x to six terms.

5. If $f(x)$ and $\phi(x)$ both vanish when $x = a$, shew that the limiting value of $\frac{f(x)}{\phi(x)}$ when $x = a$ is the same as that of $\frac{f'(x)}{\phi'(x)}$.

Find the limiting value of $\frac{e^x - e^{-x}}{\log_e (1+x)}$ when $x = 0$.

6. Explain clearly what is meant by a maximum or minimum value of a function.

State accurately the tests by which the maximum and minimum value of a function may be found by means of differentiation. Find the maximum and minimum values of

$$2x^3 - 21x^2 + 36x - 20.$$

7. Integrate (i) $(a + bx)^n \, dx$,

(ii) $\frac{d\theta}{\sin\theta}$.

8. What is denoted by $\int_a^b \phi'(x) . dx$?

Find the value of $\int_0^{\frac{\pi}{2}} \cos^5 x \, . \, dx$.

9. Show how to integrate $\frac{p + qx + rx^2}{(x-a)(x-b)(x-c)} . dx$

Integrate $\frac{3x \, dx}{x^2 - x - 2}$.

10. (i) Integrate by reduction $e^{mx} . x^n . dx$,

(ii) " " rationalization $\frac{dx}{(2 + 3x)\sqrt{4 - x^2}}$.

SECOND YEAR.

TRIGONOMETRY.

FRIDAY, APRIL 24TH:—AFTERNOON, 2 TO 5.

Examiner, ...REV. PRINCIPAL LOBLEY, D.C.L.

1. Shew that $\cos(A+B) = \cos A \cos B - \sin A \sin B$. Hence find $\cos 75^\circ$.

2. Express $\tan 3A$ in terms of $\tan A$.

3. Solve the equation $\tan \frac{\theta}{2} = \operatorname{cosec} \theta - \sin \theta$.

4. In any triangle prove that $\cos A = \frac{b^2 + c^2 - a^2}{2bc}$

5. Given $a = 728$, $b = 806 \cdot 45$, $C = 68^\circ\ 27' 30''$. Solve the triangle. (Tables).

6. Prove that $(\cos\theta \pm \sqrt{-1}\sin\theta)^m = \cos m\theta \pm \sqrt{-1}\sin m\theta$, m being a positive integer.

Hence find the cube roots of $3 + 4\sqrt{-1}$. (Tables).

7. Shew how to solve by means of the Trigonometrical Functions the equation $x^3 - qx - r = 0$.

Solve the equation $x^3 - 6x - 4 = 0$.

8. Define great circle, small circle, poles of a circle, polar triangle.

The angular points of the polar triangle are the poles of the sides of the primitive triangle.

9. In any spherical triangle prove that

$$\operatorname{Cot} A = \frac{\cot a \cdot \sin b - \cos b \cdot \cos C}{\sin C}$$

10. Shew that the area of a spherical triangle varies as the spherical excess.

Under what conditions does the spherical excess represent the area numerically ?

THIRD YEAR.

STATICS.

MONDAY, APRIL 20TH:—MORNING, 9 to 12.

Examiner, ... ALEXANDER JOHNSON, LL.D.

1. Investigate the equations for determining the curve of equilibrium of an extensible string submitted to the action of given forces when the mass of a unit length of the string is constant at all points.

2. Find the law of variation of the mass of a unit of length at each point of a flexible and inextensible string acted on by gravity, in order that it may hang in the form of a semi-circle whose diameter is horizontal.

3. Find the equation of the common catenary, viz:

$$y = \frac{c}{2}\left(e^{\frac{x}{c}} + e^{-\frac{x}{c}}\right)$$

a. Show that in the catenary the length of the radius of curvature at any point is equal to the length of the normal between that point and the horizontal axis.

4. Find the centre of gravity of a spherical triangle.

5. Find the distance of the centre of gravity of the catenary from the axis of x.

6. A number of bars are jointed together at their extremities and form a polygon; each rod is acted upon perpendicularly by a force proportional to its length, and all these forces emanate from a fixed point. Find the magnitudes and directions of the stresses at the joints.

7. The extremities of a beam rest at two given points, against two given smooth curves in the same vertical plane; the beam is to be sustained by a rope attached to its centre of gravity and to a fixed point. Determine the position of this point, so that the rope may be the weakest possible.

8. A force acting on a rigid body in a given right line can always be replaced by an equal force acting at any chosen point together with a couple.

9. At the middle points of the sides of any indeformable polygon, forces act perpendicularly to the sides, each force being perpendicular to the side at which it acts. If the forces all act inward or outward, prove that they form a system of equilibrium.

10. A heavy particle acted upon by a force equal in magnitude to its weight is just about to ascend a rough inclined plane under the influence of this force; find the inclination of the force to the inclined plane.

11. Show how to represent *graphically* the forces in the general case of the "Funicular Polygon."

12. Define "virtual work." The sum of the virtual works of any number of forces acting at a point is equal to the virtual work of the resultant.

THIRD YEAR.

DYNAMICS—HYDROSTATICS.

THURSDAY, APRIL 23RD :—MORNING, 9 to 12.

Examiner,..... ALEXANDER JOHNSON, LL.D.

1. Under the action of any forces such as occur in nature the increment of the square of the velocity of a particle in passing from one point to another is independent of the path pursued, and depends only on the initial and final positions.

2. A particle acted on by no forces is projected in a resisting medium of uniform density, of which the resistance varies as the n^{th} power of the velocity; determine the motion.

3. A particle acted on by gravity is projected from the vertex along a smooth parabola whose axis is vertical and vertex upwards: determine the motion and the pressure on the curve.

4. Investigate a formula for finding the time of motion of a planet through any portion of its elliptic orbit.

5. Find the law of force by which a particle may describe a circle, the centre of force being in the circumference of the circle.

6. When a particle is acted on by a central force, its velocity at each point of its path is inversely proportional to the perpendicular from the centre of force on the tangent at that point.

7. A particle is projected from the lowest point along the inside of a smooth verticle circle: find the least velocity of projection, in order that the particle should make a complete revolution in the circle.

8. Calculate approximately the velocity with which a body falling from an indefinitely great distance would reach the surface of the earth; neglecting all forces besides the earth's attraction and assuming $R = 4000$ miles.

9. A mass P, falling vertically, draws another Q, by a string passing over a fixed pulley; if at the end of t seconds, the connecting string be cut, show that the height to which Q will ascend afterwards is

$$\left(\frac{P - Q}{P + Q}\right)^2 \frac{gt^2}{2}.$$

10. An imperfectly elastic sphere falls from a given altitude above a horizontal plane, and rebounds continually; find the whole space described, neglecting the resistance of the air.

11. A cylindrical vessel is closed at the top, and very nearly filled with incompressible fluid, which rotates uniformly about the axis of the cylinder; find the whole pressure on the curved surface.

12. Investigate formulæ for determining the centre of pressure on a plane surface immersed in a fluid; and apply them to the case of a rectangle with two of its sides horizontal.

13. Two fluids, the volume of which are v, v^1, and specific gravities s, s^1 on being mixed contract $(\frac{1}{n})^{th}$ part of the sum of their volumes; find the specific gravity of the mixture.

14. Find the resultant vertical pressure, on any surface, of a homogeneous inelastic fluid at rest under the action of gravity.

THIRD YEAR.

ASTRONOMY—OPTICS.

FRIDAY, APRIL 24TH:—MORNING, 9 TO 12.

Examiner,.....ALEXANDER JOHNSON, LLD.

1. Explain Flamsteed's method for determining the position of the first point of Aries.

2. Define right ascension of the Meridian. How is it found?

3. Investigate the relation between the true and excentric anomalies.

$$tan\ \frac{\theta}{2} = \sqrt{\frac{1+e}{1-e}}\ tan\ \frac{u}{2}.$$

4. Find a formula, adapted to logarithms, for determining the suns azimuth at a given time of a given day.

5. Explain generally the principle of the construction of a sun-dial for a given place.

6. Investigate Simpson's formula for refraction.

$$r = \frac{z - sin^{-1}\left(\frac{sin\ z}{\mu_o^{\ n}}\right)}{n}$$

7. Prove that the area of the illuminated disc of the moon varies as the versed sine of the exterior angle of longation.

8. Find when Venus is the brightest.

9. If ϕ and ϕ^1 be the geocentric and geographical latitudes of a place, prove that approximately

$$\phi - \phi^1 = c\ sin\ 2\ \phi.$$

Where c is the compression.

10. Explain why objects would appear equally bright at all distances, supposing no loss of light by absorption in the media traversed to take place.

11. Give an account of Foucault's experiment to determine the velocity of light.

12. Rays of light diverging from a point are refracted at a plane surface, prove that the caustic is the evolute of a conic section.

13. Find the path of a ray of light in a medium, the density at any point of which varies as its distance from a fixed plane, when the medium is stratified in parallel planes.

14. Describe the Cassegrainian telescope, and find its magnifying power.

ENGLISH LANGUAGE, LITERATURE AND HISTORY.

FIRST YEAR.

ENGLISH LITERATURE AND LANGUAGE.

FRIDAY, APRIL 10TH:—MORNING, 9 TO 1.

Examiner,..... .....CHAS. E. MOYSE, B.A.

A.

1. What are the three leading events described in Beowulf? Where did they take place? Tell what you know about the mythical element of the poem. With what other Anglo-Saxon poem is Beowulf closely connected?

2. Distinguish between a Miracle and a Mystery play. Tell what you know about an English Mystery play.

3. Give an account of the leading foreign influences which acted on our Literature previous to Spenser under these heads,

(*a*) Allegory.
(*b*) Romance.
(*c*) Pastoral.

Mention three English poems in each of which one of these features is conspicuous.

4. Mention important explanations in regard to the construction and the purpose of The Faerie Queene which are alluded to in a letter prefixed to that poem. To whom was the letter written, and to whom were the first three books of The Faerie Queene dedicated?

5. Explain the construction of the Sonnet. Name the first two English sonnet-writers. In what book did their sonnets appear?

6. Mention three particulars of importance regarding each of the following works and authors. (Tell each fact in a short sentence, and when an author is mentioned, avoid giving a list of writings as an answer). The Quest of the Holy Graal, Sir John Mandeville, The Vision of Piers the Plowman, Vox Clamantis, James I. of Scotland, Sir Thomas Malory, The Pastime of Pleasure, the Steele Glass, The Shepherd's Calender, Phineas Fletcher, Layamon, William Dunbar, the Paston Letters, The Ormulum, The History of the World, The Romaunt of the Rose, The Gododin.

B.

Analyse:—

(*a*) He shot a great quantity of game on the moor.
(*b*) Knowledge dwells
In heads replete with thoughts of other men;
Wisdom in minds attentive to their own.
(*c*) I will give you no more money till I see how you use what you have.

1. How does the Anglo-Saxon alphabet differ from our own ?

2. What are the three leading dialects of Early English, and how are they distinguished ? Which became the national language ?

3. Explain Grimm's Law. Classify in the manner brought before you in the lectures, the consonants *s*, *n*, *l*, *h*, *z*.

INTERMEDIATE EXAMINATION.

ENGLISH LITERATURE. (MORRIN COLLEGE.)

Spalding: *History of English Literature.*

THURSDAY, APRIL 9TH:—MORNING, 9 TO 12.

Examiner,.....CHAS. E. MOYSE, B.A.

(You are requested to select any ten, but not more than ten, of the following questions.)

1. Give an account of Anglo-Saxon prose literature.

2. Why was the thirteenth century "a decisive epoch, not more for the constitutional history of England than for its intellectual progress."

3. What do you know concerning the Gesta Romanorum ?

4. Before the close of the Dark Ages we find "two leading dialects" in France, what are they ? Tell what you know of Marie de France, "Havelok," the Ormulum, and the Mirror of Fools.

5. What English poem did John Gower write ? Give a brief account of it. Name the most famous poet contemporary with Gower.

6. What was the plan of the Canterbury Tales ? How far was it realized ? What do you know regarding the Pilgrims ? Mention the subjects of two of the Tales, and enter into some detail regarding one of them.

7. Sketch the literary career of John Lydgate, and notice the character of his most important works.

8. Of what poem is Graunde Amoure the hero ? Who wrote it ? In what light would you regard it as a forerunner of Spenser's Faerie Queene ?

9. Sketch the outline of the literature of Scotland during the fourteenth and fifteenth centuries.

10. From the period with which the foregoing questions deal, choose an author or a connected and important series of works by different authors, and say what you know about the one or the other.

11. When did Roger Ascham live? What was the nature of his Toxophilus and Scholemaster?

12. Sketch the origin of the English Drama. What was the first tragedy? Who was the greatest pre-Shakesperian dramatist? Who was the greatest dramatic contemporary of Shakespeare?

13. Give an account of the Periodical Essay up to the time of Samuel Johnson.

14. Enumerate the chief writers in Theology and Philosophy who flourished between 1558 and 1660, and select one of each class for a detailed account.

15. In what way does Spalding criticise the poetry of Campbell, Coleridge and Shelley?

INTERMEDIATE EXAMINATION.

ENGLISH LITERATURE. (*Lectures.*)

THURSDAY, APRIL 9TH:—MORNING, 9 TO 12.

Examiner,.....CHAS. E. MOYSE, B.A.

1. Indicate the plan of the *Tatler* and the *Spectator*, as set forth in the papers themselves, and examine some theme discussed in the *Spectator*, which reflects the literary spirit of the age in which it was written.

2. Classify the prose and verse essayists of the Eighteenth Century, and in every case mention the writings that determine your arrangement.

3. (*a*) Compare the styles of Addison, Johnson, and Macaulay, respectively. (*b*) Give an account of the establishment of the *Edinburgh Review*.

4. Who wrote the Rejected Addresses? What is its nature? Tell what you know about the Fall of Robespierre and the Anti-Jacobin.

5. What do you know concerning the nature and the literary influence of the Deism of the Eighteenth Century? In what important poem is its influence seen? Examine noteworthy features of the poem in question.

6. What poets indicate the decay of the artificial school? Name a leading work of each.

7. Point out the relation that the Excursion bears to the Prelude. A certain episode connected with a fox-glove is told in the Prelude; use it to show a vital principle of Wordsworth's treatment of Nature.

8. What was the plan of the Lyrical Ballads? Why are they noteworthy?

9. Sketch Byron's literary career and point out his true place in literature.

10 Notice points of critical interest in Macaulay's Reviews on Milton, Boswell's Life of Johnson, Lord Bacon. When did Macaulay begin to write for the "blue and yellow?"

11. Name the authors of the following works, and add in each case a short critical note concerning the work itself:—Essay of Dramatic Poesie, Pamela, Debates in the Senate of Lilliput, The Grave, Vindiciæ Gallicæ, Thalaba, The Shortest way with the Dissenters, Political Justice, Madoc, Gulliver's Travels.

INTERMEDIATE EXAMINATION.

ENGLISH LITERATURE.—Shakespeare: *Tempest.*

THURSDAY, APRIL 9TH:—AFTERNOON 2 TO 4.

Examiner,.....CHAS. E. MOYSE, B.A.

1. What is known of Shakespeare's life before he went to London? Make a note on the spellings *Shakspere* and *Shakespeare*.

2. Compare the pre-Shakespearian drama with Shakespeare.

3. Scan the lines:—

(*a*) Than other princesses can that have more time.

(*b*) Some tricks of desperation. All but mariners.

(*c*) And hither come in't; go, hence with diligence!

What are such lines called?

4. Make notes on the following:

(*a*) I'll warrant him *for* drowning, (*b*) a *brave* vessel, (*c*) or ere, (*d*) more better, (*e*) not so much *perdition* as an hair, (*e*) the dark *backward*—of time, (*f*) *Pros.* Dost *thou* hear? *Mir. Your* tale, sir, would cure deafness, (*g*) Mark...the *event*, (*h*) the which, (*i*) I have deck'd the sea with drops full salt, (*j*) performed *to point*, (*k*) still-vexed Bermoothes, (*l*) Let me remember thee what thou hast promised, (*m*) My *quaint* Ariel, (*n*) a south-west blow on *ye*, (*o*) Deservedly confined *into*, (*p*) thou'rt best, (*q*) *aches*.

5. What is noteworthy concerning Shakespeare's later style?

Paraphrase the following extracts:

a Of anything the image tell me that
Hath kept with thy remembrance.
What kind of ending is "that?"

(*b*) If thou rememb'rst aught ere thou camest here,
How thou camest here thou mayst.
(Scan the first line of (*b*),

(*c*) I, thus neglecting worldly ends, all dedicated
To closeness and the bettering of my mind
With that which, but by being so retired,
O'er-prized all popular rate, in my false brother
Awaked an evil nature,.....
He being thus lorded,
Not only with what my revenue yielded,
But what my power might else exact, like one
Who having unto truth by telling of it
Made such a sinner of his memory
To credit his own lie, he did believe
He was indeed the duke.

(*d*) Me, poor man, my library
Was dukedom large enough.

(*e*) Hast thou, which art but air, a touch, a feeling
Of their afflictions, and shall not myself,
One of their kind, that relish all as sharply,
Passion as they, be kindlier moved than thou art?

(*f*) And, since I saw thee
The affliction of my mind amends, with which,
I fear, a madness held me.

6. Tell the course and the issue of the two conspiracies.

7. In what way does the Tempest reflect its time?

THIRD YEAR.

RHETORIC AND ENGLISH LITERATURE.

FRIDAY, APRIL 17TH:—MORNING, 9 TO 12.

Examiners,..... { J. CLARK MURRAY, LL.D.
CHAS. E. MOYSE, B.A.

A. Rhetoric.

1. Give the principal rules for perspicuity, both in the choice of words and in the construction of sentences.

2. (*a*) To what excellence of style does conciseness contribute? (*b*) Distinguish three faults opposed to conciseness, illustrating the distinction by an example of each.

3. (*a*) In any necessary allusion to offensive subjects, by what means may unnecessary offence be avoided? (*b*) How would you justify the minuteness of detail in such a passage as the Witches' Scene in Macbeth?

4. Explain the classification of compositions.

5. Explain fully either the principles of exposition, or those of history.

6. Point out the rhetorical faults of the following sentences:

(*a*) At this magnificent charge by our cavalry, the enemy went helter-skelter.

(*b*) Him chance misled his mother to destroy.

(*c*) His efforts were completely and absolutely insufficient to banish entirely the whole darkness of the age he lived in.

(*d*) We left Italy with a fair wind, which continued three days, when a violent storm drove us to the coast of Sardinia, which is free from all kinds of poisonous herbs, except one, which resembles parsley, and which they say, causes those who eat it to die of laughing.

B. English Literature. Chaucer: *Prologue to Canterbury Tales.*

1. (*a*) How are *which* and *what* used in the Prologue? Give examples. (*b*) What are the endings of the Imperative mood in Chaucer? Give examples. (*c*) What do you learn from the Prologue regarding the formation of the adverb? (*d*) Conjugate the present and past tenses (Ind. and Subj.) of the verb *love*.

2. (*a*) Give the meanings of the following words and make a note on each word: thinketh, lovyere, cowde, saugh, ȝaf, lipsede, purchasyng, herbergh, pers, rette. (*b*) Give one instance of the use of each.

3. Describe the Sergeant of Lawe and the Ploughman.

4. (*a*) From the other pilgrims select and describe the one whom you know best.

(*b*) Scan your lines.

5. (*a*) Mention six places and six persons (no two in the description of any one pilgrim) alluded to in the Prologue.

(*b*). Say, as definitely as possible, where each allusion occurs, and select one of each kind for comment.

6. (*a*) Name two works of Chaucer which manifest French and Italian influences respectively.

(*b*). Use the latter to show conventionalities in narrative poetry which were common in the Chaucerian period.

THIRD YEAR ADDITIONAL AND B. A. ORDINARY.

MODERN HISTORY.

Bryce: *Holy Roman Empire;* Freeman: *General Sketch;* Lectures.

WEDNESDAY, APRIL 8TH:—MORNING, 9 TO 12.

Examiner,.....CHAS. E. MOYSE, B.A.

(Students of the Third Year will answer only the questions 1 to 10, inclusive; candidates for B.A. will choose any 5 from the Third Year set and any seven of the remainder.)

1. (*a*) When did Christianity become the religion of the Roman Empire? Why is the date A. D. 476 noteworthy?

(*b*) What does Bryce say about the first alliance of Christianity with the State?

2. (*a*) When was Charlemagne crowned Emperor? Where? By whom?

(*b*) What three theories were advocated regarding the coronation of Charlemagne when the Papacy opposed the Empire? Which theory prevailed?

3. Explain carefully the theory of the Mediæval Holy Roman Empire. who added the epithet "Holy"?

4. Mention a few leading points in the struggle between the Franconian Emperors and the Papacy, and also the issue.

5. What do you know concerning the Lombard League? What four distinct coronations were associated with the Empire?

6. How many Electors were there at first? Name the ecclesiastical Electors. How did English Kings come to possess an Electoral vote?

7. Discuss in detail the effect of the Renaissance and of the Reformation on the Empire.

8. What war did the Peace of Westphalia end? Show why the Peace of Westphalia is so important.

9. Investigate the relations of England, Venice, the Byzantine Empire and Sweden, to the Holy Roman Empire.

10. Mention, in order, three events of importance in the history of the Empire. (No repetition of previous matter will obtain credit).

11. What do you know concerning the crusade of 1204? When did the Eastern Empire end?

12. Speak, in general terms, of the colonization of America by Portugal, Spain, France, England, Holland and Sweden, and then indicate the course of the Anglo-French duel in North America until 1759.

13. Of what city was Kaffa in the Crimea a colony? The rival of that city? Why is Chioggia noteworthy? When did the Turkish power in Europe reach its greatest height? Its extreme north-western and north-eastern limits? From what power did the Turks take the Peloponnesus in the beginning of the eighteenth century?

14. What does the word Austria mean? What was Austria at first? Where was the old Duchy of Prussia and of what was it a fief? Where is Silesia? When did the Seven Years' War take place? Sketch the leading features of its course.

15. Trace the territorial development of France, beginning with the division of 887.

16. How did Spain acquire the Low Countries?

17. Make a note, brief but definite, concerning each of the following:—Metz, Dijon, Otto III., Granada, Calmar, Sempach, Kasan, Geneva, Cyprus, Crete, La Rochelle, Lutzen, Blenheim.

18. Sketch the leading events of the history of Russia.

19. What do you consider to be six very important events in the history of Ancient Greece? Answer a similar question in regard to Rome.

20. Assign an event to each of the following dates: 1215, 1492, 1572, 1648, 1763, 1789, 1806, 1871.

THIRD YEAR ADDITIONAL AND HONOURS.

EARLY ENGLISH.

SATURDAY, APRIL 4TH:—MORNING, 9 TO 12.

Examiner,.....CHAS. E. MOYSE, B.A.

1. Translate:—
   (*a*) Ext. I, lines 133-168.
   (*b*) " II, Ps. xvii, lines 1-30.
   (*c*) " IV, (A), lines 37-45; (D), lines 13-36.
   (*d*) " VI, lines 113-147.
   (*e*) " IX, lines 1-30.

2. Make notes, etymological or otherwise, which help to bring out the meaning of the following words:—In Ext. I, ginne, quointise, to-sprad, uorarnd; in Ext. II, umgaf, yhode, upstegh, ware; in Ext. IV, make, roun, lossom, ichot; in Ext. VI, icristned, to donne, beth, wortheth.

Point out dialectic forms in the second extract, and give their equivalents in the Southern dialect.

THIRD YEAR ADDITIONAL AND HONOURS.

ENGLISH LITERATURE.

Burke: *Thoughts on Present Discontents; Reflections.* Milton: *Areopagitica.*

TUESDAY, APRIL 7TH:—MORNING, 9 TO 12.30.

Examiner,.....CHAS. E. MOYSE, B.A.

1. What was the opinion of Ministers about the discontents on which Burke wrote?

2. What does Burke say about the influence of the Peers, and the payment of the debts of the Civil List?

3. How does Burke view (*a*) Lord Bute, (*b*) John Wilkes?

4. What great guardian of the purity of the constitution was in danger of being lost?

5. What was Burke's remedy for the discontents? Summarize Burke's main arguments in support of that remedy.

6. The English people had, according to Dr. Price, acquired a right (*a*) to choose their own governors, (*b*) to frame a government for themselves. How does Burke deal with these statements?

7. How does Burke dispose of political action based on the natural rights of man?

8. "The monks are lazy." How does Burke defend them?

9. How does Burke criticise the policy of the National Assembly in regard to (*a*) the Executive power, (*b*) the Army?

10. Explain the title Areopagitica.

11. Into what four divisions does Milton's "speech" fall?

12. Take any two of them, and summarize the outline of the arguments and illustrations Milton employs.

13. Briefly explain the meaning of the following words and phrases: Success, censure, cabin Counsellors, his brother quadragesimal and matrimonial, inquisiturient, cautelous, a punie, to ding (a book), enchiridion, promiscuous conversing, fescu, an old canonicall slight, a topic folio, syntagma, elenchs.

14. Explain the following allusions:—Who went about to impaire your merits with a triviall and malignant encomium; the fabulous dragon's teeth; a lordly Imprimatur, one from Lambeth house, another from the West

end of Pauls; the two Apollinarii; Morgante, an Italian Romanze; those confused seeds which were imposed on Psyche; Scotus or Aquinas; marginall Keri; Sorbonists; the countryman's Arcadia's and his Monte Mayors; Atlantick and Eutopian polities.

THIRD YEAR ADDITIONAL AND HONOURS.

Milton: *Shorter English Poems;* Macaulay: *History of England,* Vol. I., cap. 1.

FRIDAY, APRIL 24TH:—MORNING, 9 TO 12.

Examiner,.....CHAS. E. MOYSE, B.A.

1. Mention the first three divisions of L'Allegro and Il Penseroso and give their substance.

2. Select from the two poems twelve words which require explanation and, having explained each, give its context.

3. *Comus*:—"The star that bids the shepherd fold;" in what strain does Comus continue?

4. Give two reasons why Sabrina is introduced into Comus.

5. With what other poems should Lycidas be compared?

6. Justify Milton's treatment of pastoral. Give what seem to you the leading divisions of Lycidas, and group noteworthy topics under each.

7. "The talents and even the virtues of her (*England's*) first six French Kings were a curse to her," what does Macaulay say about the seventh, and how does he support his argument?

8. Show that the Stuart tribunals gave no protection against civil and ecclesiastical tyranny.

9. Point out any features of Macaulay as a writer, which have impressed themselves upon you, and refer to illustrative passages.

THIRD YEAR HONOURS.

Wordsworth : *Prelude ;* Dryden : *Annus Mirabilis, Absalom and Achitophel, Hind and Panther, Preface to "Fables."*

SATURDAY, APRIL 11th :—MORNING, 9 TO 1.

Examiner,..... CHAS. E. MOYSE, B.A.

1. Sketch the leading features of Wordsworth's description of his "residence" in France and show how he regarded the various aspects of the French Revolution.

2. Criticise the Annus Mirabilis, and give quotations to support your views.

3. In what strain does the "godlike David" speak at the conclusion of the First Part of Absalom and Achitophel?

4. Give an epithet or a phrase by which Dryden particularizes each of the leading characters in Absalom and Achitophel.

5. Mention the animals which Dryden introduces into the First Part of the Hind and Panther, as types of the chief sects of his time.

6. Upon what questions does the argument between the Hind and Panther (Part II.) turn? Select some one of them, and give a more detailed account of it.

7. In what particulars do you consider the Preface to the "Fables" of value to a student of English Literature?

THIRD YEAR HONOURS.

Chaucer: *Knightes Tale, Nonne Prestes Tale ;* Spenser: *Faerie Queene.*

MONDAY, APRIL 20TH :—MORNING, 9 TO 12.

Examiner,..... CHAS. E. MOYSE, B.A.

1. Who was Ligurge? How does Chaucer describe him?

2. (*a*) What happened to Arcite just after the combat in the lists?
(*b*) Comment on the passage in which Chaucer describes Arcite's symptoms.

3. At the conclusion of the Knighte's Tale, Theseus says,

> "Then is it wisdom, as it thinketh me,
> To maken vertu of necessite."

What train of moralizing leads him to that conclusion?

4. Describe Chaunteclere.

5. (*a*) What may be the source of the Nonne Prestes Tale ?

(*b*) Why does Chaucer call the fox daun Russel ?

6. (*a*) In what connection does Chaucer mention Jakke Straw, Gaufred the book of Lancelot de Lake, and Nero ?

(*b*) Give the meaning of mountance, redoutyng, at-rounne, *ayel*, reme, cheventein, *schode*, and make an etymological note on the words in italics.

7. Examine the chief points in the letter which prefaces the Faerie Queene, and illustrate them.

8. Trace Archimago through the First Book.

9. What do you know about the castle of Orgoglio ?

10. Quote a stanza from the Faerie Queene, and criticize Spenser's language as a whole.

THIRD YEAR HONOURS.

Hallam: *Middle Ages*, Caps. i., iii., v., viii., ix.

WEDNESDAY, APRIL 22ND :—MORNING, 9 TO 12.

Examiner,..... .....CHAS. E. MOYSE, B.A

1. Give an account of the crusade against the Albigeois.

2. Describe the Great Council of Venice.

3. Give an account of the rise of Switzerland.

4. Illustrate the tyrannical character of the government of the Norman kings.

5. Notice the leading features of villenage and of its decay.

6. Make notes on each of the following :—

(*a*) The Lombard principalities in the South of Italy.
(*b*) Anziani.
(*c*) Meloria.
(*d*) Carlo Zeno.
(*e*) The Hanseatic league.
(*f*) Varna.
(*g*) Purveyance.
(*h*) Haxey.
(*i*) House furniture in the Middle Ages.

THIRD AND FOURTH YEARS HONOURS.

CONSTITUTIONAL HISTORY OF ENGLAND. (*Lectures*).

THURSDAY, APRIL 2ND:—MORNING, 9 TO 12.

Examiner,.....CHAS. E. MOYSE, B.A.

1. Show how certain assemblies of a Swiss Canton (say Uri) display principles of the earliest Teutonic polity. Select from what you have written certain features which can be contrasted with Anglo-Saxon polity in England, after a united kingdom had been established there.

2. Show that the elective principle in regard to the king existed during the Anglo-Saxon period. Did it appear under the early Norman kings?

3. What do you know concerning the *Comitatus*, and why is the Comitatus so important constitutionally?

4. Examine the nature of the Witenagemot, and mention three of its important functions.

5. What step did Cnut take, which aided the Norman conquest? What steps did William the Conqueror take to prevent the rise of continental feudalism in England? Did that feudalism ever appear there?

6. What do you know regarding the Anglo-Saxon shire and its polity? By what step or steps do you descend from the shire to the township? What link binds them all together?

7. Make notes on the following:—*wergild*, *folcland*, Bill*ing*ham, *justiciar*, *franchises* or *liberties*.

B. A. ADDITIONAL AND THIRD YEAR HONOURS.

ANGLO-SAXON.

SATURDAY, APRIL 18TH:—MORNING, 9 TO 12.

Examiner,.....CHAS. E. MOYSE, B.A.

1. Translate:—

(*a*) Alfred's Orosius, 63-75; 118-127.

(*b*) [Third Year] Alfred's Boethius, 1-30.

(*c*) [Fourth Year] Gospels, Matt. xxv. 14-30.

2. (*a*) Decline stow, mor, dæg. Give the principal parts of cwethan and conjugate the past tense of the Indicative mood.

(*b*) Give the principal parts of the A. S. verbs which have become in modern English, hold, beget, see, let, fall.

(*c*) Decline mann, æht, feoh.

3. Give the comparative and the superlative of ær, ufan, heah : also the A. S. for *eleven*, *seventy*, *to us two*, *of the good man*, *to a good man*, *these good men*.

4. Translate: (1) Seo other boc is Exodus gehaten. (2) He tha aras, swa swa se engel him bebead and ferode thæt cild mid thære meder to Israhela lande. (3) Ond hie tha swa dydon: worhton tha tu geweorc on, twa healfa thære eas. (4) Seo stow is gehaten 'Heofonfeld' on Englisc with thone langan weall the tha Romaniscan worhton, thaer thaer Oswold oferwann thone wælhreowan cyning. And thær wearth sithan aræred swithe mære cyrce Gode to wurthynte, me wunath a on ecnysse. (5) Si thæs wuldor tham almihtigan Gode the on ecnysse rixath a to worulde. (6) Englas eh worhte, tha sind gastas, and nabbath nænne lichaman. Menn he gesceop mid gaste and mid lichaman. Nytenu and deor, fixa and fugelas he gesceopon flaesce, butan sawle.

5. Take five Anglo-Saxon words, and make philological notes on them.

6. Give an account of Christianity in England during the early Saxon time.

7. Where did the three great combats of Beowulf take place? How has the *Beowulf* been interpreted?

B.A. ADDITIONAL AND HONOURS.

EARLY ENGLISH : Spenser : *Faerie Queene*, Bk. I.

THURSDAY, APRIL 23RD :—MORNING, 9 TO 12.

Examiner, ... CHAS. E. MOYSE, B.A.

1. Translate the following extracts :—
   (*a*). XII., ll., 145-169.
   (*b*). XIII., ll., 360-406.
   (*c*). XV., Passus V., ll., 129 to end of ext.
   (*d*). XVI., ll., 137-1.16.

2. Make notes on pencell, rese, elive, note, stud, kythes.

3. Sketch the outline of the Man of Lawes tale.

4. How does the method of a Poet differ from that of an Historiographer.

5. Trace Duessa through the First Book.

6. When is a sight of the "New Jerusalem" afforded to the Knight? What are Cleopolis and Panthea? "They pass the bitter waves of Acheron." Who? What do they see there?

B.A. ADDITIONAL AND HONOURS.

Pope: *Essay on Criticism, Essay on Man;* Buckle: *History of Civilization.* Vol. I., Caps. i., ii.; Vol. II., Cap. viii.; Vol. III., Cap. i.

SATURDAY, APRIL 25TH :—MORNING, 9 TO 12-30.

Examiner,.....CHAS. E. MOYSE, B.A.

1. *Essay on Criticism:*

(*a*) Show, in the form of general statements, that the Essay on Criticism reflects its age. [No detail of any kind required.]

(*b*) What references does Pope make to Dryden?

(*c*) Quote lines which illustrate the precepts they convey.

2. *Essay on Man:*

(*a*) Indicate comprehensively, but briefly, the plan of the Essay on Man.

(*b*) How does Pope explain the origin and progress of Society?

(*c*) "Lo, the poor Indian!" Can you quote the Section?

3. Buckle:

(*a*) Compare India and Greece.

(*b*) Show how the population and the manufacturing industries of Spain declined during the seventeenth century. From what cause?

(*c*) In what way does Buckle use the scenery of Scotland in argument?

B.A. HONOURS.

ANGLO-SAXON.

WEDNESDAY, APRIL 1ST :—MORNING, 9 TO 12.

Examiner,.....CHAS. E. MOYSE, B.A.

I. Translate:—

Beowulf, ll.; III. 126; 187-191; 256-267.

Cædmon, ll. 129-140.

Cynewulf and Cyneheard, ll. 14-24.

II. (*a*) Give the principal parts of the strong verbs in the second extract from Beowulf, and in the extract from Cædmon.

(*b*) Translate: frecne fenngelad; fylle gefrægnod; thæt him on aldre stod herestræl hearda; befongen freawrasnum; thæt thær gumena sum ælwihta eard ufan cunnode; brægd tha beadwe heard, tha he gebolgen wæs, feorhgenithlan, thæt heo on flett gebeah; blondenfeaxe gomele ymb godne on geador spræcon; Ferdon forth thonon fêthelastum ferhthum fægne; thæt hire with halse heard grapode, banhringas bræc.

(*c*) Give derivatives from fréc, dryht.

(*d*) Philological notes on wyrt, gewidru, sellice, gumcȳstum.

(*e*) Distinguish between fleon, fleman, fleogan; cunnan, cunnian; blæcern, blǽcern, geweorthan, geweorthian.

(Translation at sight.)

(*a*) An extract in prose from the Anglo-Saxon Chronicle.

(*b*) An extract in prose from the Blickling Homilies.

(*c*) Two short extracts in verse from the Anglo-Saxon Chronicle.

B.A. HONOURS.

Tennyson: *in Memoriam*; Shelley: *Adonais*.

MONDAY, APRIL 6TH:—MORNING, 9 TO 12.

Examiner.....CHAS. E. MOYSE, B.A.

1. (*a*) Indicate, in general terms, differences of treatment in Lycidas, Adonais, and In Memoriam. (*b*) Indicate in like manner leading resemblances. In Memoriam is sometimes spoken of as closely following Petrarch's poems To Laura in Death: mention a few similarities between the two. and point out the fallacy in making the one explain the other.

2. Whom does Shelley introduce as fellow-mourners, and by what epithets does he allude to them?

3. What allusions relative to Keat's career are found in Adonais?

4. Show that a chronological division of In Memoriam—such, for instance, as Mr. Genung's—is not altogether satisfactory.

5. Under these three heads, (*a*) Individual, (*b*) Dual, (*c*) Universal, jot down in tabular form the leading developments of Tennyson's thought, and give cross references, when they are important.

6. Show that the Introduction to In Memoriam presents that poem in miniature, and justify the theme of the Epilogue.

7. In what way does a knowledge of Wordsworth—and more particularly of his Prelude—throw valuable light on In Memoriam?

8. "I falter where I firmly trod"—

Notice criticisms of Mr. Peter Bayne and Mr. Tainsh on this portion of In Memoriam, and examine Tennyson's argument.

9. Quote from each major subdivision any three lines (no two in the same section) which strike you as remarkably good.

10. Mention historical and mythological allusions of a general character in In Memoriam.

B.A. HONOURS.

Campbell: *Pleasures of Hope*; Shelley: *the Cenci*.

FRIDAY, APRIL 10TH:—MORNING, 9 TO 12.

Examiner,..... CHAS. E. MOYSE, B.A.

1. Mention noteworthy facts of Campbell's life prior to the publication of the Pleasures of Hope, and indicate Campbell's place in our Literature.

Analyse Part I of the Pleasures of Hope.

3. Describe, as fully as you can, the domestic pleasures that are touched on in Part II.

4. Give the contexts of:
(*a*) "O Heaven!" he, cried, My bleeding country save!
(*b*) And Freedom shriek'd, as Kosciusko fell!
(*c*) Spent on the prayer his bursting heart, and died!

5. What important matters does Shelley discuss in the Preface to the Cenci?

6. Contrast the five leading characters of the play, and quote in substantiation of your leading statements.

7. Give a somewhat detailed account of some important incident in the Cenci.

8. In what do you consider Shelley's dramatic excellence lies?

9. Quote two complete passages in the Pleasures of Hope and a few (say six) thoughts in the Cenci which you think remarkably good. Say as definitely as you can where each occurs.

B. A. HONOURS.

Shakespeare: *Love's Labour's Lost; A Midsummer Night's Dream; Hamlet.*

MONDAY, APRIL 13TH:—MORNING, 9 TO 12.

Examiner,..... CHAS. E. MOYSE, B.A.

1. Love's Labour's Lost:

(*a*) On what internal evidence, apart from Euphuism, would you consider Love's Labour's Lost to be an early play of Shakespeare?

(*b*). Trace Byron through the play.

2. A Midsummer Night's Dream.

(*a*) Explain and justify the title.

(*b*) Group the characters according to parallelism.

(*c*) Take one of the groups and make notes of a general nature concerning it. (As you proceed, substantiate your notes by quoting).

(*d*) Comment on Ercles, a roundel, nole, a Bergomask dance; also on these readings: Yours would I catch, fair Hermia, ere I go; Now is the mural down between the two neighbours.

3. Hamlet:

(*a*) How does Ophelia, in soliloquy, describe the madness of Hamlet?

(*b*) Where is Julius Cæsar mentioned in Hamlet? Point out similar incidents in Hamlet and Julius Cæsar.

(*c*) What do you know concerning the various editions of Hamlet and the sources from which Shakespeare may have drawn?

(*d*) Criticise the character of Hamlet.

(*e*) Use Hamlet to show the more important features of Shakespearian English.

B. A. HONOURS.

Tennyson: *Idylls of the King.*

WEDNESDAY, APRIL 15TH:—MORNING, 9 TO 12.

Examiner,..... CHAS. E. MOYSE, B.A.

1. (*a*) Give the substance of Queen Bellicent's answer to the question "But when did Arthur chance upon thee first?" Explain the answer. Why can no real union exist between Arthur and Guinevere?

(*b*) Take your last answer, and supplement it by selecting leading features from the Guinevere Idyll.

2. Criticise Enid.

3. Sketch the outline of a legend that Merlin tells Vivien concerning "a king in the most Eastern East."

4. Mention the Songs in the Idylls and examine their significance.

5. In the Passing of Arthur, Arthur compares the last battle in the west with the battles of his youth, alluded to in the coming of Arthur. How? Describe that last battle, and jot down, in the form of marginal notes, interpretations that strike you as throwing light upon it.

6. Say where each of the following extracts occurs, and give its context:—

(*a*) And arms on which the standing muscle sloped,
As slopes—

(*b*) I thought that he was gentle, being great

(*c*) Prize me no prizes, for my prize is death!

(*d*) —the dead
Steer'd by the dumb—

(*e*) The old order changeth, yielding place to new.

7. Jot down, in logical order, such major and minor topics as you would enlarge upon, if you were viewing the Idylls as a whole.

B. A. HONOURS.

HISTORY.

FRIDAY, APRIL 17TH:—MORNING, 9 TO 12.

Freeman: *Historical Geography*, 4 Caps.; Macaulay: Vol. I., Caps. 2 and 3.

Examiner,.....CHAS. E. MOYSE, B.A.

1. Illustrate the difference between "Historical Geography" and Geography.

2. Trace the growth of the Austria of the German kingdom.

3. Describe the growth of the Ottoman power, and mark on the accompanying map the districts and places you mention.

4. Jot down, in the form of very brief notes and in two parallel columns, the leading events in the territorial growth of France and Germany, and mark dates on the margin.

5. What parts did Sir William Temple and Halifax take in the politics of the reign of Charles II?

6. Describe the state of Science in the reign of Charles II.

B. A. HONOURS.

Cowper: *Task, Bks. I-III*; Arnold: *Essays in Criticism*; Freeman: *Growth of the English Constitution.*

TUESDAY, APRIL 21ST:—MORNING, 9 TO 12.

Examiner,.....CHAS. E. MOYSE, B.A.

1. Show from the Task that Cowper represents an age of transition.

2. How does Cowper describe the Gipsies? "What was a monitor in George's days?"

3. Enlarge on the topic in the Task with which you are best acquainted

4. Of the following extracts give the contexts or their substance:—

(*a*) The things that mount the rostrum with a skip.

(*b*) And in thy numbers, Phillips, shines for aye.

(*c*) Mountains interposed
Make enemies of nations.

(*d*) True, we may thank the perfidy of France.

(*e*) How in the name of soldiership and sense
Should England prosper?

5. What is Matthew Arnold's opinion of Burke? (First Essay).

6. From what English writers and in what way does Matthew Arnold illustrate "provinciality?"

7. (*a*) How does Freeman maintain that Henry VIII "had a great deal to do with the final preservation of our liberties?

(*b*) How does he regard the trial of Charles I?

(*c*) How does he view the English monarchy of our own day?

INTERMEDIATE EXAMINATION.

LOGIC.

MONDAY, APRIL 20TH:—MORNING, 9 TO 12.

Examiner,.....J. RALPH MURRAY, B.A.

1. Distinguish Collective and General Terms, giving an example of each.

2. Distinguish a Privative from a Negative Term, and give some instances of Privative Terms.

3. Distinguish the Categorematic and Syncategorematic words in the line
"Where once such fairies dance, no grass doth ever grow."

4. (*a*) What is meant by the Extension; what, by the Intension of a term?
(*b*) Explain the law of their relation.

5. Define a Proposition, and name the parts of which it is composed.

6. (*a*) What is meant by the Quantity, what by the Quality, of a proposition?
(*b*) Give the sign for the quantity and quality of the following propositions:—
α. Every mistake is not a proof of ignorance;
β. Few are acquainted with themselves;
γ. No one is always happy;
δ. Not many of the metals are brittle.

7. Convert each of the propositions given under the previous question.

8. Distinguish Subject, Predicate and Copula in the following propositions:—
(*a*) No Scotch need apply;
(*b*) It is an easy topic to dwell on the faults of departed greatness;
(*c*) The condition of our nature is such that we buy our blessings at a price;
(*d*) No government ought to own that it exists for the purpose of checking the prosperity of its people.

9. Give the logical opposites of the following proposition, and the converse of its contradictory:—
"He cannot become rich who will not labour."

10. What inferences may logically be drawn (*a*) from one Contrary to another (*b*) from one Contradictory to another

11. Prove that in a Syllogism one of the premises must be universal.

12. Define a Hypothetical Syllogism. How many kinds of hypothetical syllogisms are there? Define each kind.

13. Explain the following fallacies, giving an example of each:—*Fallacia plurium interrogationum, Fallacia accidentis, Fallacia divisionis et compositionis.*

14. Discuss the legitimacy of the following arguments:—(*a*) All wise legislators suit their laws to the genius of their nation; Solon did this, therefore he was a wise legislator.

(*b*) No man is happy who is not secure; no tyrant is secure, therefore no tyrant is happy.

(*c*) If the ground is wet, rain has fallen; but rain has fallen; therefore the ground is wet.

MENTAL AND MORAL PHILOSOPHY.

THIRD YEAR ADDITIONAL.

HAMILTON'S PHILOSOPHY AND MILL'S LOGIC (*Books* 1—3).

WEDNESDAY, APRIL 8TH:—MORNING, 9 TO 12.

Examiner,.....J. CLARK MURRAY, LL.D.

1. Give in full either Hamilton's classification of the philosophical sciences, or his classification of the faculties of knowledge.

2. Distinguish the two points of view from which the facts of consciousness may be regarded, and show that doubt is possible only in reference to one.

3. Explain fully either the distinction between sensation and perception, or the distinction in the qualities of matter.

4. Give an exposition of one of the following subjects:—(*a*) latent mental states; (*b*) generalisation; (*c*) the question of the *Primum Cognitum*.

5. Explain either the Law of the Conditioned, or its application to the Law of Causality.

6. State Mill's doctrine on the import of names (terms) and of propositions.

7. State Mill's theory of the function of the syllogism.

8. Explain one of the experimental methods, illustrating by an example.

9. Give an exposition either of the deductive method or of the explanation of the Laws of Nature.

10. What is (*a*) an empirical law, (*b*) the nature of its evidence? (*c*) Show that an Uniformity of Co-existence is merely an empirical law.

THIRD YEAR HONOURS.

THOMSON'S OUTLINE OF THE LAWS OF THOUGHT,

AND

BERKELEY'S PRINCIPLES OF HUMAN KNOWLEDGE.

TUESDAY, 21ST APRIL:—MORNING, 9 TO 12.

Examiner,.....J. CLARK MURRAY, LL.D.

1. Explain either (*a*) the distinction between First and Second Intentions, or (*b*) the functions of language.

2. Take any two terms in the questions of this paper, and interpret each in reference to the three powers of conception.

3. Give a Table of all the Judgments recognised (*a*) by the old logicians, (*b*) by Thomson, (*c*) by Hamilton.

4. Explain fully either (*a*) Thomson's scheme of the Opposition of Propositions, or (*b*) any three other forms of Immediate Inference which he recognises.

5. Why does Thomson reject the Fourth Figure of the Syllogism?

6. Express the mood A A I in Euler's and in Hamilton's notation.

7. State, with some fulness, the doctrine expounded in Berkeley's *Principles*.

THIRD YEAR HONOURS.

CICERO'S DE NATURA DEORUM

AND

GREEK PHILOSOPHY.

FRIDAY, 24TH APRIL:—MORNING, 9 TO 12.

Examiner,.....J. CLARK MURRAY, LL.D.

1. Sketch either (*a*) the Epicurean's defence of his theology, or (*b*) the Academic's reply.

2. "Empedocles autem multa alia peccans, in deorum opinione turpissime labitur. Quatuor enim naturas, ex quibus omnia constare vult, divinas esse censet; quas et nasci et exstingui perspicuum est, et sensu omni carere. Nec vero Protagoras, qui sese negat omnino de diis habere quod liqueat, sint, non sint, qualesve sint, quidquam videtur de natura deorum suspicari.....Quid aer, quo Diogenes Apolloniates utitur deo, quem sensum habere potest, aut quam formam dei?.....Atque etiam Antisthenes, in eo libro qui *Physicus* inscribitur, populares deos multos,

naturalem unum esse dicens, tollit vim et naturam deorum. Nec multo secus Speusippus, vim quandam dicens, qua omnia regantur, eamque animalem, evellere ex animis conatur cognitionem deorum." Translate.

3. Write a note on each of the philosophers mentioned in the above passage.

4. Give an outline either (*a*) of the Second Book, or (*b*) of the reply to it in the Third Book, of the *De Natura Deorum*.

5. (*a*) Describe the Eleatic School, as represented by Parmenides; and (*b*) explain how one of the Socratic Schools fell into the line of the Eleatic speculations.

6. Sketch the system of Heraclitus.

7. Explain the leading points in the Dialectic of Plato.

8. Give an outline either of Stoicism or of Epicureanism.

B. A. ORDINARY EXAMINATION.

CALDERWOOD'S HANDBOOK OF MORAL PHILOSOPHY.

WEDNESDAY, 1ST APRIL:—MORNING, 9 TO 12.

Examiner, ...J. CLARK MURRAY, LL.D.

1. Explain the Intuitional and the Development Theories on the knowledge of Moral Distinctions.

2. Show that Moral Training is something different from Education of the Conscience.

3. What explanations may be given of the diversity of moral judgments among men?

4. Explain the distinction of Perfect and Imperfect Obligations, and make any remarks on the distinction.

5. State and criticise Bain's theory of the Conscience.

6. Explain how any of the Utilitarians account for Moral Obligation.

7. Give Calderwood's classification of Impulses to Action.

8. How far are these merely natural; how far are they ethical?

9. Explain either (*a*) the relation of the Will to the other powers, or (*b*) the system of Necessitarianism.

10. State either (*a*) the Materialistic or (*b*) the Pantheistic theory of the universe.

B.A. ORDINARY EXAMINATION.

ROGERS' MANUAL OF POLITICAL ECONOMY.

THURSDAY, 2ND APRIL:—MORNING, 9 TO 12.

Examiner,.....J. CLARK MURRAY, LL.D.

1. Explain the nature and the origin of the error that one man's gain is another's loss.

2. Explain (*a*) the origin and the function of money, (*b* the effect of issuing debased coin.

3. Define (*a*) wages, (*b*) interest, (*c*) rent.

4. Explain why, in a new country, wages and interest must usually be high, while rent must usually be little or nothing.

5. Sketch Malthus' theory of population.

6. Describe any of the tenancies of agricultural land.

7. Explain the law of demand and supply, illustrating its effects by an example.

8. During the civil war in the United States the Government issued an inconvertible paper currency, and the result was that specie disappeared from circulation. Explain the reason of this result.

9. State the general principles of taxation, as laid down by Adam Smith.

10. Distinguish direct and indirect taxes, giving an example of each.

B.A. HONOURS IN MENTAL AND MORAL PHILOSOPHY.

(I.) MILL'S SYSTEM OF LOGIC.

TUESDAY, 31ST MARCH:—MORNING, 9 TO 12.

Examiner,..... J. CLARK MURRAY, LL.D.

1. Explain Mill's theory, either on the Import of Names, or on that of Propositions.

2. What is Mill's doctrine regarding the *Dictum de Omni et Nullo*, and what does he hold to be the really fundamental axiom of Ratiocination?

3. Explain the difference of opinion between Mill and Spencer about the Universal Postulate.

4. Explain fully either (*a*) one of the Experimental Methods, or (*b*) the Deductive Method.

5. (*a*) State what is meant by explaining the Laws of Nature, or (*b*) explain the Requisites of a Philosophical Language.

6. Illustrate each of the Fallacies in Mill's classification by an example.

7. In what sense may a Science be not exact? Illustrate by the Science of Human Nature.

8. Describe fully (*a*) the Methods inapplicable, and *b* the Method applicable, to Social Science.

(II.) SPENCER'S FIRST PRINCIPLES.

TUESDAY, 7TH APRIL:—MORNING, 9 TO 12.

Examiner,.....J. CLARK MURRAY, LL.D.

1. Explain Spencer's doctrine of the relativity of all knowledge.

2. Explain his reconciliation of religion and science.

3. State the definition of philosophy and its data.

4. Sketch the reasoning by which Spencer reaches "the sole truth which transcends experience by underlying it."

5. Explain either the direction or the rhythm of motion, and show it to be a deduction from this truth.

6. Show that the Law of Evolution is also a deduction from the same truth.

7. Give a summary of the First Principles.

8. Give any remarks of your own on the system of philosophy expounded in the First Principles.

(III.) MAINE'S ANCIENT LAW.

THURSDAY, 9TH APRIL :—MORNING, 9 TO 12.

Examiner, ...J. CLARK MURRAY, LL.D.

1. Criticise Bentham and Austin's analysis of law in the light of the historical origin of law.

2. Explain (*a*) the nature and origin of legal fictions, (*b*) their function in the progress of society, (*c*) other instrumentalities which serve the same function.

3. Relate the origin of the Jus Gentium, and sketch its subsequent development in the history both of Roman and of modern law.

4. Explain the contrast between ancient and modern societies by reference to the social unit in each, illustrating especially by the Patria Potestas, and by the distinction between Cognates and Agnates.

5. Connect with the subject of the previous question the development of testaments and testamentary succession.

6. Describe (*a*) the ancient confusion between crimes, wrongs and sins, (*b*) the form which criminal jurisprudence took in consequence.

(V.) ARISTOTLE'S NICOMACHEAN ETHICS.

MONDAY, APRIL 13TH :—MORNING, 9 TO 12.

Examiner,.....J. CLARK MURRAY, LL.D.

1. Write an outline of the whole of the Nicomachean Ethics, giving a specially full exposition of its most prominent doctrines.

2. Translate one of the following passages :—Book II., Chap. 4 (5) ; Book V., Chap. 14 (10) ; Book VI., Chap. (3) ; Book X., Chap. (5), Paragraph 6-11, inclusive.

3. Write a note on any point that seems to require explanation in the passage selected for translation.

(VI.) DESCARTES AND SPINOZA.

WEDNESDAY, 15TH APRIL :—MORNING, 9 TO 12.

Examiner,.....J. CLARK MURRAY, LL.D.

1. State fully (*a*) Descartes' argument for the existence of the Supreme Being, (*b*) Kant's criticism of the argument.

2. Explain Descartes' criterion of truth.

3. "Res particulares nihil sunt nisi Dei attributorum affectiones (I. 25, Cor.) Explain this statement in connection with the general system of Spinoza.

4. Explain Spinoza's doctrine of truth and error, and compare it with Descartes'.

5. "Voluntas et intellectus unum et idem sunt" (II. 49, Cor.). Point out the correspondence and divergence between Spinoza's doctrine of the will and Kant's.

6. Explain (*a*) Spinoza's theory of the passions (*affectus*), (*b*) his classification of them.

7. "Nihil certo scimus bonum aut malum esse, nisi id quod ad intelligendum revera conducit, vel quod impedire potest quominus intelligamus" (IV. 37). Explain.

8. "Summus mentis conatus summaque virtus est res intelligere tertio cognitionis genere" (V. 25). Explain.

(VII.) THE PHILOSOPHY OF KANT.

FRIDAY, 17TH APRIL :—MORNING, 9 TO 12.

Examiner,.....J. CLARK MURRAY, LL.D.

1. Explain the relation of the three Kritiks to one another.

2. Explain the main divisions of the Kritik of Pure Reason.

3. (*a*) Give a brief outline of the Transcendental Æsthetic, or (*b*) explain the Table of the Categories.

4. Explain either (*a*) the Schematism of the Categories, or (*b*) the Analogies of Experience.

5. Sketch briefly either the discussion on the Antinomy, or that on the Ideal, of the Pure Reason.

6. State the Principle, the Object, and the Motive, of the Pure Practical Reason.

7. State and solve the Antinomy of the Pure Practical Reason.

8. State and solve the Antimony of the Teleological Judgment.

(VIII.) (B.A. HONOURS AND ADDITIONAL.)
MODERN PHILOSOPHY.

TUESDAY, 21ST APRIL:—MORNING, 9 TO 12.

Examiner, ...J. CLARK MURRAY, LL.D.

1. Describe the two speculative tendencies of Realism and Idealism.

2. Sketch, in outline, the development of these tendencies in modern philosophy.

3. Explain the tendency of Philosophical Skepticism (Agnosticism) towards Philosophical Ultramontanism, that is, the assertion of an absolute authority over religious thought and life. Illustrate this tendency in the history of modern philosophy.

4. Tell what you know of Giordano Bruno and of Jacob Boehme.

5. Describe the positions of Bacon and of Hume in the history of modern philosophy.

6. State, with some fulness, one of the leading philosophical systems of modern times, not included in any of the previous questions.

(IX.) (B.A. HONOURS AND ADDITIONAL)
LORIMER'S INSTITUTES OF LAW.

FRIDAY, 24TH APRIL:—MORNING, 9 TO 12.

Examiner, ...J. CLARK MURRAY, LL.D.

1. Distinguish the different schools of Jurisprudence.

2. "Conscience is not a separate faculty." Explain this statement fully.

3. Show that laws are inferences from the facts of nature, and therefore cannot alter facts.

4. Explain the relation between Jurisprudence and Ethics.

5. In what sense does the idea of Liberty involve that of Equality.

6. Sketch, in full detail, either the Secondary Sources or the Secondary Objects of Positive Law.

MODERN LANGUAGES AND HEBREW.

FRENCH.

FIRST YEAR.

WEDNESDAY, APRIL 8TH :—MORNING, 9 TO 12.

Examiner,.....P. J. DAREY, M.A., B.C.L.

Translate into English :—

1. Oui, monsieur ; il est vrai qu'il y a trois semaines que vous m'envoyâtes (*a*) porter, le soir une petite montre à la jeune Egyptienne que vous aimez. Je revins (*b*) au logis mes habits tout (*c*) couverts de boue, et le visage plein de sang, et je vous dis (*d*) que j'avais trouvé des voleurs qui m'avaient bien battu, et m'avaient dérobé la montre. C'était moi qui l'avait retenue. (*e*)—C'est toi qui a retenu (*f*) ma montre ?—Oui monsieur, afin de savoir quelle heure il est.

2. *a, b, d.* Write the *Imperfect of the subjunctive*, the *Future*, the *Preterite anterior* and the *Past conditional* of those verbs.

c. Why is *tout* written invariable ?

e. Why is *retenue* written with an *e* ; and why (*f*) is there no *e* in *retenu*.

3. What are the two most comical scenes in the *Fourberies de Scapin* ?

4. When do you use the partitive article, *du*, *de la*, *des*, and when do you put simply *de* ? Give three examples.

5. Give three examples when the French use the article and the English do not; and three examples when the French do not use it and the English do.

6. Write in the plural : *l'animal*, *le chacal*, *le général*, le *carnaval*, le *verrou*, le *clou*, *le travail*, *l'éventail*. Give the rules and mention the exceptions.

7. When is *aigle*, *couple*, *foudre*, *manche*, *quelque chose*, masculine, and when feminine ?

8. Name the adjectives which form their comparative and superlative irregularly. Answer to the same question for the adverbs.

9. When do you put an *s* to vingt and cent ? Give the rule fully.

10. Write the plural of *notre*, *votre*, when possessive adjectives, and possessive pronouns.

11. Give the rules to write in the plural the compound nouns. And give examples.

12. Translate into French :

Last night I could not sleep, I had a shivering the whole night, a cough, and a very sore throat. Do you know what day of the month it is to-

day. Do you like your meat well done or under done? In summer we have many vegetables: spinage, pease, cauliflower, Indian corn and potatoes. He was going away when I met him. You cousins (*f*) are so gentle, so kind, and so amiable that they are beloved by everybody. However rich his father may be, he is not the richest man in town. Our friends will go to Europe next month, and they will come back at the end of summer. I have bought a cow and a horse; the former costs me forty dollars, the latter five hundred. I have several Racines in my library.

INTERMEDIATE EXAMINATION.

WEDNESDAY, APRIL 8:—MORNING, 9 TO 12.

Examiners,... ..... { P. J. DAREY, M.A., B.C.L. / PROFESSOR MILLER.

1. Translate into English:

g. Chassez de votre esprit ce triste souvenir.
e. Ah! quand je le voudrais, pourrais-je l'en bannir?
J'entends sortir du cœur de mon malheureux père
Ce cri! Mon fère est mort; j'ai fait mourir mon fère!
Je jouais, j'étais là, riant sur ses genoux,
Quand d'horreur, à ce cri, vous avez pâli tous.
Puis avec quels sanglots il reprit à voix basse;
Eh quoi! pas un de vous à mes pieds se jetant,
M'a rappelé ces jours où nous nous aimions tant?
Nos durs travaux, ces nuits où brisés par la guerre
Dans le même manteau nous couchions sur la terre,
Où l'écartant de lui pour en couvrir son roi,
Sous la froide rosée il tremblait près de moi?
Et je l'ai condamné sans qu'une bouche amie
S'ouvrît pour me crier: Il vous a sauvé la vie!
Pauvre infortuné fère!... Ah! que jamais ton sang
Ne retombe sur lui, dit-il en m'embrassant,
Sur mes fils.

DELAVIGNE, *Les enfants d'Edouard*, II, 6.

2. State the antecedent of the first *le* in verse 2, the antecedent of the second *le*, and the antecedent of *en*.

3. Write out the irregular verbs in the above extract, and give their principal parts.

4. Give a short account of the reunions of the Hôtel de Rambouillet, and state the object the members had in view.

5. Give a short account of the life of Casimir Delavigne, and mention his masterpieces (*a*) in lyric poetry; (*b*) in tragedy; (*c*) in comedy.

6. Translate into French:

There is no man whose imagination does not sometimes predominate over his reason, who can regulate his attention wholly by his will, and whose ideas will come and go at his command. No man will be found in whose mind airy notions do not sometimes tyrannize, and force him to hope or fear beyond the limits of sober probability. All power of fancy over reason is a degree of insanity; but while this power is such as we can control or repress, it is not visible to others, nor considered as any deprivation of the mental faculties: it is not pronounced madness but when it becomes ungovernable, and apparently influences speech and action.

Johnson's Rasselas, XLIV.

He then examined the cavern through which the waters of the lake were discharged; and, looking down at a time when the sun shone strongly upon its mouth, he discovered it to be full of broken rocks, which, though they permitted the stream to flow through many narrow passages, would stop any body of solid bulk. He returned, discouraged and dejected; but having now known the blessings of hope resolved never to despair. *Rasselas, Chap. V.*

7. Who were the three best prose writers of the XVIth century? Name some of their writings.

8. Answer the same question for the XVIIth. century. What was the Satyre Menippée? When was it written, and at what occasion? Mention some of its authors.

9. *Aricie.* Quoi vous pouvez vous taire en ce péril extrême
Vous laissez dans l'erreur un père qui vous aime?
Cruel, si de mes pleurs méprisant le pouvoir,
Vous consentez sans peine à ne me plus revoir,
Partez, séparez-vous de la triste Aricie;
Mais du moins en partant assurez votre vie. (*a*)
Défendez votre honneur d'un reproche honteux
Et forcez votre père à révoquer ses vœux. (*b*)
Il en est temps encore. Pourquoi, par quel caprice
Laissez-vous le champ libre à votre accusatrice. (*c*)
Eclaircissez Thésée.

PHÈDRE, AC. N. SE. 1.

10. (*a*) How? (*b*) What vœux. (*c*) Who was that accusatrice? Give a résumé as complete as you can of the last scene of *Phèdre.*

11. To leave one to his own conduct. He acted slily. I am not so easily imposed upon. The question is who has done that? To come to the point. A la portée. Nous le traitons de prince. Venir à bout de. Etre aux prises. Mes fenêtres donnent sur le jardin de notre voisin.

HONOURS.

THIRD YEAR.

TUESDAY, APRIL 14TH:—MORNING, 9 TO 12.

Examiner,.....P. J. DAREY, M.A., B.C.L.

1. Le sujet de *Phèdre* avait-il été déjà traité avant Racine? Par qui? Sous quel titre? Qui est l'auteur qui tâcha de rivaliser avec Racine sur ce même sujet? Faites connaître Aricie telle que nous la donne Racine.

2. Qui était Boileau? Donnez un court aperçu de sa vie et de ses écrits. Quel était l'état des lettres au XVIIe siècle avant Boileau? Quels grands ouvrages avaient paru avant Boileau? Quel rang tient-il au XVIIe siècle?

3. Quand Boileau composa-t-il *l'Art Poétique?* En combien de chants est-il divisé? Dites ce dont l'auteur traite dans chacun de ces chants? Que pensez vous du style de l'Art Poétique?

4. Qu'est-ce que les *Caractères* de La Bruyère? De quoi traite-t-il dans cet ouvrage? Y a-t-il d'autres ouvrages du même genre? Nommez-les.

5. Quelles langues sont directement dérivées du latin

6. Quelle est la fonction de *l'article* en français? Par quoi l'article est-il remplacé en latin?

7. Traduisez en anglais:

> Voici le fait. Depuis quinze ou vingt ans en ça
> Au travers d'un (*a*) mien pré (*b*) certain anon passa,
> S'y vautra, non sans faire un notable dommage
> Dont je formai plainte au juge du village.
> Je fais saisir l'anon. Un expert est nommé;
> A deux bottes de foin le dégat estimé.
> Enfin au bout (*c*) d'un an, sentence par laquelle
> Nous sommes renvoyés hors de cour (*d*) j'en appelle
> Pendant qu'à l'audience on poursuit un arrêt,
> Remarquez bien ceci madame, s'il vous plaît,
> Notre ami Drolichon, qui n'est pas une bête,
> Obtient pour quelque argent un arrêt sur requête
> Et je gagne ma cause.....
>
> RACINE, *les Plaideurs*, Ae. 1, sc. VII.

8. Quelle différence y a-t-il entre *au travers* et *à travers?* Distinguez entre *près* et *près*. Et entre *au bout* et *à bout*. Et entre *cour*, *court* et *basse-cour*.

9. Traduisez en français :

I was in this mortifying situation, when a brother clergyman, an old acquaintance, who had also business at the fair, came up and, shaking me by the hand, proposed adjourning to a public house, and taking a glass o whatever we could get. I readily closed with the offer, and entering an alehouse we were shown into the back room, where there was only a venerable old man, who sat wholly intent over a large book which he was reading. I never in my life saw a figure that prepossessed me more favorably. His locks of silver-gray venerably shaded his temples, and his green old age seemed to be the result of health and benevolence. However, his presence did not interrupt our conversation. My friend and I discoursed on the various turns of fortune we had met; the Westonian controversy, my last pamphlet, the Archdeacon's reply, and the harsh measure that was dealt me.

The Vicar of Wakefield, chap. XIV.

THIRD YEAR.

THURSDAY, APRIL 16TH :—MORNING, 9 TO 12

Examiner, ...P. J. DAREY, M.A., B.C.L.

1. Traduisez en anglais : *Un homme d'Etat.*

C'est bel et bon ; je crois que vous peignez (*a*) fort bien ;
Mais laissez donc cela, George, à ceux qui n'ont rien.
Qu'un pauvre diable à jeun (*b*), n'ayant ni sou ni livre
Barbouille bien ou mal quelques toiles pour vivre,
Je ne l'en blâme pas ; quoiqu'il pût selon moi
D'une toile en bon fil faire un meilleur emploi,
Mais vous riche, honoré, qu'on recherche et qu'on fête,
Ce sont d'autres projets qu'il faut vous mettre en tête,
—J'étais au ministère, où l'on parla de vous :
Pourquoi me disait-on ne vient-il pas à nous ?
Il ne sied (*c*) pas aux fils de grands propriétaires
De vivre comme il fait, en dehors des affaires.
Voyez-le ; dites-lui que nous lui trouverons
Un poste (*d*) convenable où nous le pousserons.
—Une sous-préfecture ?

L'Honneur et l'argent. Ac. 1. Sc. 1.

2. *a* Ecrivez le *présent de l'infinitif* et le *future* de ce verbe ?
b Quel est l'infinitif d'où ce mot est dérivé ?
c Quel est l'infinitif de ce verbe ?
d Que signifie ce mot quand il est féminin.

3. Traduisez en anglais : Mon mince revenu m'interdit cette vie. On insulte les gens qu'on flatte de travers. Dieu garde, que jamais tout vienne à te manquer ! Faites-moi prévenir. L'assaut des besoins vous sera bien plus rude qu'aux hommes aguerris par la vieille habitude. Et moi de quel air l'aborder. J'ai dû vous signaler le péril où vous êtes. Je fais peu de cas du fils. Les anciens usages sont traités de sornettes. C'est louche. Mes fermages me sont très mal payés.

You pick me up at every word I say. If he acts wrongly towards me, I shall return to him the same. It is a very bad business, and you were fortunate to be out of it so easily. He relies upon his father's advice and protection. He went to London to make himself known among the artists there. He expected in vain a word of sympathy on my part. After the shipwreck he landed on an uninhabited island, where he was obliged to support himself by hunting and fishing.

4. Qu'est-ce qu'on entend par les *Encyclopédistes* dans la littérature du XVIIIe siècle ? Qu'est-ce qu'ils se proposaient ? Nommez les deux principaux auteurs qui prirent part à cette publication.

5. Qui est-ce qui a écrit l'*Émile*, le *Siècle de Louis XIX*, Les *Lettres Persannes?* Dites tout ce que vous savez sur ces ouvrages.

6. Donnez une courte biographie de *Fontenelle ;* et nommez tous ses ouvrages.

7. Traduisez en français :

The internal government of Bengal the English rulers delegated to a great native minister, who was stationed at Moorshedabad. All the military affairs, and, with the exception of what pertains to mere ceremonial, all foreign affairs, were withdrawn from his control; but the other departments of the administration were entirely confided to him. His own stipend amounted to near a thousand pounds sterling a year. The personal allowance of the nabab, amounting to more than three hundred thousand pounds a year, passed through the minister's hands, and was, to a great extent, at his disposal. The collection of the revenue, the administration of justice, the maintenance of order, were left to this high functionary; and for the exercise of his immense power he was responsible to none but the British masters of the country.

MACAULAY, *Warren Hastings.*

THIRD YEAR.

ADDITIONAL COURSE.

FRIDAY, APRIL 10TH :—MORNING, 9 TO 12.

Examiner,..... .....P. J. DAREY, M.A., B.C.L.

1. Donnez un aperçu biographique de La Fontaine.

2. Nommez les écrits de La Fontaine à part ses fables.

3. Combien de livres y a-t-il dans les fables ?

4. Traduisez en anglais :

Un savetier chantait du matin jusqu'au soir :
C'était merveille de le voir,
Merveille de l'ouir ; il faisait des passages
Plus content qu'aucun des sept sages.
Son voisin au contraire, étant tout cousu d'or,
Chantait peu, dormait moins encor :
C'était un homme de finance.
Si sur le point du jour parfois il sommeillait,
Le savetier alors en chantant l'éveillait ;
Et le financier se plaignait
Que les soins de la Providence
N'eussent pas au marché fait vendre le dormir,
Comme le manger et le boire.
En son hôtel il fait venir
Le chanteur et lui dit : Or ça, si Grégoire,
Que gagnez-vous par an ?.....

La Fontaine, Liv. VIII., *f.* 2.

5. Qu'est-ce qui porta Racine à écrire la comédie des *Plaideurs*? A-t-il écrit d'autres comédies? Combien de comédies Corneille a-t-il écrites ? *Which?*

6. Traduisez en anglais :

Petit Jean. Hé ! faut-il tant tourner autour du pot ?
Ils me font dire aussi des mots longs d'une toise,
Des mots qui tiendraient d'ici jusqu'à Pontoise.
Pour moi je ne sais point faire tant de façon
Pour dire qu'un mâtin vient de prendre un chapon,
Tant y a qu'il n'est rien que votre chien ne prenne,
Qu'il a mangé là-bas un bon chapon du Maine ;
Que la première fois que je l'y trouverai
Son procès est tout fait, et je l'assommerai.

RACINE, *les Plaideurs*, Ac. VIII, S. III.

Traduisez en anglais :

7. Je vais lui servir un plat de mon métier. Tenez voilà le cas qu'on fait de votre exploit. Je les mets pis à faire. Donnant dans le panneau. Je m'en rapporte à vous. Grand bien vous fasse ! Si dans la Province il se donnait en tout vingt coups de nerf de bœuf, mon père pour sa part en emboursait dix-neuf. Mais de quoi s'agit-il ? Faites au moins mettre des garde-fous là-haut.

8. Dites selon Paul Albert l'influence de Louis XIV sur le grand développement de la littérature française au XVIIe siècle.

9. Qui était Furetière ? Quelles sont les raisons qui le firent expulser de l'Académie Française ? Donnez un aperçu biographique de la vie de Descartes. Nommez ses ouvrages.

10. Traduisez en français :

Guilt and Shame, says the allegory, were at first companion ,and in the beginning of their journey inseparably kept together ; but the union was soon found to be disagreeable and inconvenient to both. Guilt gave Shame frequent uneasiness, and Shame often betrayed the secret conspiracies of Guilt. After long disagreement, therefore, they at length consented to part for ever. Guilt boldly walked forward alone, to overtake Fate, that went before in the shape of the executioner ; but Shame, being naturally timorous returned back to keep company with Virtue, which, in the beginning of their journey, they had left behind. Thus, my children, after men have travelled through a few stages of vice, Shame forsakes them, and returns to wait upon the few virtues they have still remaining.

The Vicar of Wakefield, ch. XV.

B. A. ORDINARY EXAMINATION.

MONDAY, APRIL 20:—MORNING, 9 TO 12.

Examiners, ... { P. J. DAREY, M.A., B.C.L. / PROF. MILLER.

1. Traduisez en anglais :

Non, vous avez beau faire et beau me raisonner,
Rien de ce que je dis ne me peut détourner;
Trop de perversité règne au siècle où nous sommes,
Et je veux me tirer du commerce des hommes.
Quoi! contre ma partie on voit tout à la fois,
L'honneur, la probité, la pudeur et les lois ;
On publie en tous lieux l'équité de ma cause ;
Sur la foi de mon droit mon âme se repose ;
Cependant je me vois trompé par le succès,
J'ai pour moi la justice, et je perds mon procès !
Un traître, dont on sait la scandaleuse histoire
Est sorti triomphant d'une fausseté noire !
Il fait par un arrêt couronner son forfait!
Et non content du tort que l'on me fait,
Il court parmi le monde un livre abominable,
Et de qui la lecture est même condamnable ;
Un livre à mériter la dernière rigueur,
Dont le fourbe a le front de me faire l'auteur !

MOLIÈRE, *Le Misanthrope*, *V.* 1.

2. Par quel mot la préposition *de* au deuxième vers est-elle gouvernée ? Expliquez le terme *il court* au 15e vers. Donnez l'équivalent de *où* au 3e vers. La différence entre *foi, foie, fois ; lieu* et *lieue ; procès* et *procédé?* Que veut dire *partie* au 5e vers ?

3. Traduisez : *Quoiqu'il en soit ; essuyer les mains ; essuyer une conversation ; prendre part, prendre parti, en prendre une partie ; je viens le voir ; je viens de le voir ; je n'y puis plus tenir ; jouer quelqu'un, jouer un personnage.*

4. *a* Et l'on ne donne emploi, charge, ni bénéfice
Qu'à tout ce qu'il se croit on ne fasse injustice.

Analysez le deuxième vers.

b Dans les propos qu'il tient on ne voit jamais goutte ;
Et ce n'est que du bruit que tout ce qu'on écoute.

Expliquez les quatre *que* dans ces vers.

c. Distinguez entre *plaindre* et *se plaindre, quereller* et *se quereller tservir* et *se servir, abuser* et *s'abuser, taire* et *se taire.*

5. Expliquez la nature du subjonctif. Indiquez cinq cas dans lesquels nous devons faire usage de ce mode, et donnez deux exemples pour chaque cas.

6. Traduisez : —

The physical organization of the Bengalee is feeble even to effeminacy. He lives in a constant vapor bath. His pursuits are sedentary, his limbs delicate, his movements languid. During many ages he has been trampled upon by men of bolder and more hardy breeds. Courage, independence, veracity are qualities to which his constitution and his situation are equally unfavorable. His mind bears a singular analogy to his body. It is weak even to helplessness for purposes of manly resistance ; but its suppleness and its tact move the children of sterner climates to admiration not unmingled with contempt. MACAULAY, *Warren Hastings.*

7. Donnez un court aperçu de la vie de Victor Hugo, faites connaître les changements qu'il a introduits dans l'art dramatique. Comment s'appelle l'école dont il est regardé comme le chef? Vers quelle époque prit-elle naissance ?

8. Nommez trois historiens, trois romanciers et trois poètes du XIXe siècle et donnez le titre de leurs principaux ouvrages.

9. Traduisez en français :

A good shop wants no signboard to attract customers. Charles paid us a visit yesterday ; we did not expect him at all. You are brushing my coat against the nap. He hastened his steps more and more, not knowing the distance that was between him and the town. A dense mist hung over the valley. You awoke with a start. When he speaks of his father he pours forth his praises without end.

B. A. EXAMINATION (ADDITIONAL).

TUESDAY, APRIL 14TH :—MORNING, 9 TO 12.

Examiners,..... { P. J. DAREY, M.A., B.C.L. / PROF. MILLER.

1. Traduisez EMILE SOUVESTRE, *un philosophe sous les toits, VII.*

Dans l'ancienne Rome le mois de juillet s'appelait quintilis (cinquième) parce que l'année, divisée seulement en dix parties, commençait en mars. Plus tard, le mois de quintilis, où était né Jules César, fut appelé julius, dont nous avons fait juillet. Ainsi, ce nom inséré au calendrier y éternise le souvenir d'un grand homme : c'est comme une épitaphe éternelle gravée par l'admiration des peuples sur la route du temps. Combien d'autres inscriptions pareilles ! mers, continents, montagnes, étoiles et monuments tout a successivement servi au même usage ! Nous avons fait du monde entier ce livre d'Or de Venise, où s'inscrivaient les noms illustres et les

grandes actions. Il semble que le genre humain sente le besoin de se glorifier lui-même dans ses élus, qu'il se relève à ses propres yeux en choisissant dans sa race ses demi-dieux. La famille mortelle aime à conserver le souvenir des parvenus de la gloire, comme on garde celui d'un ancêtre fameux ou d'un bienfaiteur. C'est qu'en effet les dons naturels accordés à un seul ne sont point un avantage individuel, mais un présent fait à la terre ; tout le monde en hérite, car tout le monde souffre ou profite de ce qu'il a accompli. J'aime à m'arrêter à ces idées ; elles m'expliquent l'admiration pour la gloire ; hommes, nous aimons à immortaliser les délégués les plus éclatants de l'humanité.

2. Dites la différence entre *le mois dernier* et *le dernier mois*, *la semaine dernière* et *la dernière semaine*. Que savez-vous de ce *livre d'Or de Venise?*

3. Donnez les verbes irréguliers qui se trouvent dans l'extrait précédent, et écrivez tous les temps qui présentent des irrégularités.

4. Corrigez : C'est beau de mourir pour la patrie. Prêtez-moi de l'argent, je n'ai pas assez sur moi. Attendez pour une minute, je serai de retour dans un instant. Il me faudra travailler encore longtemps avant que je puis mettre un sou de côté. Nous avons dépensé environ quatre-vingt francs chacun. J'ai peur que cette place sera au-dessus de ses talents. Vous aurez de la peine à les faire reconnaître vos droits. De mes quatre cousins je ne connais que deux. Je voudrais que vous n'étiez pas le seul à m'en féliciter. Elle s'est levé vivement. Nous avons reçu les marchandises que vous nous avez envoyé.

5. Racontez l'histoire de la vie d'Emile Souvestre Mentionnez les titres de quelques-uns de ses ouvrages. Qu'avez-vous à dire quant au style de ses ouvrages ?

6. Nommez les poètes dramatiques qui se sont distingués sous le Gouvernement de Juillet. Donnez une courte biographie de François Ponsard. Quel motif avait-il en publiant sa comédie *l'Honneur et l'Argent*?

7. Traduisez SHAKESPEARE, *As you like it*, *III*, 2.

COR.—And how like you this shepherd's life, Master Touchstone ?

TOUCH.—Truly, Shepherd, in respect of itself, it is a good life ; but in respect that it is a shepherd's life, it is naught. In respect that it is solitary, I like it very well, but in respect that it is private, it is a very vile life. Now, in respect it is in the field, it pleaseth me well ; but in respect it is not in the Court, it is tedious. As it is a spare life, look you, it fits my humour well ; but as there is no more plenty in it, it goes much against my stomach. Hast any philosophy in thee, Shepherd ?

COR.—No more but that I know the more one sickens the worse at ease he is ; and that he that wants money, means and content is without three good friends ; that the property of rain is to wet, and fire to burn ; that good pasture makes fat sheep, and that a great cause of the night is lack of the sun ; that he that hath learned no wit by nature nor art, may complain of good breeding, or comes of a very dull kindred.

GERMAN.

FIRST YEAR.

TUESDAY, APRIL 14TH:—MORNING, 9 TO 12.

Examiner,.....C. F. A. MARKGRAF, M.A.

1. Translate into English :—

(A)

„„Willst, feiner Knabe, du mit mir gehn,
Meine Töchter sollen dich warten schön ;
Meine Töchter führen den nächtlichen Reihn,
Und wiegen und tanzen und singen dich ein.""
„Mein Vater, mein Vater, und siehst du nicht dort
Erlkönigs Töchter am düsteren Ort ?"
„Mein Sohn, mein Sohn, ich seh' es genau :
Es scheinen die alten Weiden so grau."—

„„Ich liebe dich, mich reizt deine schöne Gestalt,
Und bist du nicht willig, so brauch' ich Gewalt.""—
„Mein Vater, mein Vater, jetzt faßt er mich an !
Erlkönig hat mir ein Leids gethan !"—

Dem Vater grauset's, er reitet geschwind,
Er hält im Arme das ächzende Kind.
Erreicht den Hof mit Müh' und Noth ;
In seinen Armen das Kind war todt.

Gœthe, Der Erlkönig.

Und Gottes Engel stand vor der Finstern da ; er sprach zu ihr des heiligen Schicksals Wort: „Weil du das Licht der Sonne beneidet hast, Unglückliche, so wirst du künftig nur von ihrem Lichte glänzen : und wann dort jene Erde vor dich tritt, so stehest du halb oder ganz verfinstert da, wie jetzt.—Doch, Kind des Irrthums, weine nicht. Der Erbarmende hat dir deinen Fehler verziehen und ihn in Wohl verwandelt. „„Geh," " sprach er, „„sprich der Reuenden zu. Auch sie in ihrem Glanze sei Königinn. Die Thränen ihrer Reue werden ein Balsam sein, der alles Lechzende erquickt, der das vom Sonnenstrahl Ermattete mit neuer Kraft belebet.""

Getröstet wandte sich Luna ; und siehe, da umfloß sie jener Glanz, in welchem sie jetzt noch glänzt. Sie trat ihn an, den stillen Gang, den sie jetzt noch geht, die Königinn der Nacht, die Führerinn der Sterne. Beweinend ihre Schuld, mitleidig jeder Thräne, sucht sie, wen sie erquicke ; sie sucht, wen sie tröste.

Herder, Sonne und Mond.

2. (See Ext. A. and B) (*a*) Give the Nom. Plural of:—feiner Knabe, mein Vater, Sohn, den Hof, Wort, Gottes, das Licht, die Königinn, der Nacht ; —(*b*) Give the 4 cases Sing. of: deine schöne Gestalt ; das ächzende Kind. (*c*) Willst, siehst, bist, faßt an, hat gethan, stand, sprach, hat verziehen, getröstet, trat an. Parse these verbs, and give their Present Infinitives.

3. (*a*) Which parts of speech terminate *always* in „e" in the Nominative Plural? (*b*) Which nouns may take the Plural ending „e", which „er", and which „en"? (*c*) Which masculine, feminine and neuter nouns *do not modify* the radical vowel in the Plural?

4. Decline in both numbers :—the friendly neighbour (m.); many a large town (Stadt, f.); a great people (Volk, n.; pl. great peoples).

5. Give the Present Indicative (all persons) of wiſſen, müſſen, wiederfinden,—and the Perfect (3rd Sing. and 2nd Plu.) of zurückbringen, abnehmen, ausgehen, verſuchen, anziehen.

6. Conjugate „wegſetzen", giving the 2nd Sing. and 3rd Plural of the six tenses of the Indicative.

7. Translate :—Das Sprechen fremder Sprachen iſt ſehr nützlich. Ich bin ein Freund von langen Reiſen und lehrreichen Geſprächen. Er wohnte vor einem halben Jahre noch bei uns. Bitte, leſen Sie mir aus dieſem Buche vor. Ich warte ſchon drei Viertelſtunden lang.

8. (*a*) How are adverbs compared in German? Give examples of the adverbial superlative. (*b*) State the case (or cases) governed by the following prepositions :—mit, durch, vor, für, gegen, nach, ohne, auf, ſeit. (*c*) Show the difference between aber and ſondern.

9. Translate into German :—

What is the price of good, black silk and of fine, dark cloth? This country has no large rivers. Their parents have come with the steamer from Mayence. At what o'clock will you be at home this evening? At a quarter past nine. It is now half past five. No, it is a quarter to six. Give the work to that clever tradesman. Your cousins have already asked twice after you this afternoon. (The) green is the colour of (the) hope. Have you bought these wares at (in) the shop of our merchant? The peasants are going into the field. I shall write to him as soon *as* I can. Lessing (has) died in the year 1781 (in letters).

INTERMEDIATE EXAMINATION.

TUESDAY, APRIL 16TH: — MORNING, 9 TO 12.

Examiner,..... C. F. A. MARKGRAF, M.A.

1. Translate into English:

(A) Fort geht's wie auf Sammt auf dem weichen Schnee,
Wann rauscht das Wasser, wann glänzt der See?
Da bricht der Abend, der frühe, herein;
Von Lichtern blinket ein ferner Schein.
Es hebt aus dem Nebel sich Baum an Baum
Und Hügel schließen den weiten Raum.
Er spürt auf dem Boden Stein und Dorn,
Dem Rosse gibt er den scharfen Sporn.
Und Hunde bellen empor am Pferd,
Und es winkt im Dorf ihm der warme Herd.
„Willkommen am Fenster, Mägdelein,
An den See, an den See, wie weit mag's sein?
Die Maid, sie staunet den Reiter an:
„Der See liegt hinter dir und der Kahn.
Und deckt' ihn die Rinde von Eis nicht zu,
Ich spräch', aus dem Nachen stiegest du."

Schwab, Der Reiter und der Bodensee.

(B) „Lang lebe der König! Es freue sich,
Wer da athmet im rosigen Licht!
Da unten aber ist's fürchterlich,
Und der Mensch versuche die Götter nicht,
Und begehre nimmer und nimmer zu schauen,
Was sie gnädig bedecken mit Nacht und Grauen!—
Es riß mich hinunter blitzesschnell,
Da stürzt' mir aus felsichtem Schacht
Wildfluthend entgegen ein reißender Quell;
Mich packte des Doppelstroms wüthende Macht,
Und wie einen Kreisel mit schwindelndem Drehen
Trieb mich's um, ich konnte nicht widerstehen.
Da zeigte mir Gott, zu dem ich rief,
In der höchsten schrecklichen Noth,
Aus der Tiefe ragend ein Felsenriff;
Das erfaßt' ich behend und entrann dem Tod.
Und da hing auch der Becher an spitzen Korallen,
Sonst wär' er ins Bodenlose gefallen.

Schiller, Der Taucher.

2. (See Ext. A) (*a*) Fort geht's.....Dem Roſſe gibt er.....Why is the subject placed after its verb? State rules in full relating to the transposition of the subject after its verb. (*b*) Und deckt' ihn die Rinde von Eis nicht zu,.....Supply the conjunction and construct accordingly. (*c*) See Ext. A and B.—Geht, ſchließen, gibt, liegt, ſpräch', riß, trieb, konnte, widerſtehen, rief, hing, wär' gefallen. Parse these verbs, and write down the *irregular* forms (beside those here given) of each.

3. (*a*) Decline in the Singular:—der Friedrich; Agnes; das ſchöne Italien. (*b*) Decline in both numbers:—ein Berliner Student; our old acquaintance (fem.); this high building (Gebäude, n.).

4. (*a*) In how many different forms may the possessive pronouns *mine, thine, his, hers, ours, yours, theirs* be expressed in German, and how are these forms *severally* declined? Give examples. (*b*) When are welcher, welche, welches, pl. welche, used in the sense of *some* or *any*? Give short examples.

5. (*a*) Give the Imperfect Indicative (all persons) of ſich vorſtellen (v. reg.), and the Present and Imperfect Subjunctive of leſen, werfen, nennen. (*b*) Write down the Imperative in full of helfen, ſich ſetzen, laſſen.

6. (*a*) Translate:—Come in; they go there; he stays below; we are going down; are you coming up? they travel to and fro. (*b*) Show the difference in meaning between ich hole wieder and ich wiederhole; er iſt übergegangen and er iſt übergangen; wir gehen um and wir umgehen; das Buch iſt geleſen and das Buch wird geleſen.

7. Conjugate in both the *active* and *passive* voice „aufhalten", giving the 3rd Sing. and 2nd Plural of all the tenses of the Indicative.

8. Translate into German:—

Along the houses of this street *there* are many young trees planted (pflanzen, reg.). In a month at the latest we shall return from our journey. I heard you had received news from your absent friends. There lies a pleasant (freundlich) little village (dim.) on the other side of the river, in the neighbourhood of the forest. What countrymen are these strangers? They are Swedes, Danes and Russians. While the parents were in the garden, their eldest son arrived, whom they had not seen *for* (since) some time. Every one would have thought that he was guilty (ſchuldig), and yet (doch) he was innocent. According to an order from his sovereign (Fürſt, m.) the ambassador *is to* (shall) depart within forty-eight hours. Schiller's and Goethe's works are very much read. I do not say this on his account, but on your account. They *did* (have) not achieve(*d*) what they had begun.

THIRD YEAR.

MONDAY, APRIL 20TH :—MORNING, 9 TO 1.

Examiner, ...C. F. A. MARKGRAF, M.A.

I. Uebersetzen Sie ins Englische :—

(A) So fand mich noch Bendel, als er herein trat. Er sah den Schmerz seines Herrn, und wollte sich still, ehrerbietig zurückziehen.—Ich blickte auf—ich erlag unter der Last meines Kummers, ich mußte, ihn mittheilen. „Bendel, rief ich ihm zu, „Bendel! Du Einziger, der Du meine Leiden siehst und ehrst, sie nicht erforschen zu wollen sondern still und fromm mitzufühlen scheinst, komm zu mir, Bendel, und sei der Nächste meinem Herzen. Die Schätze meines Goldes hab' ich vor Dir nicht verschlossen, nicht verschließen will ich vor Dir die Schätze meines Grames.—Bendel, verlasse mich nicht. Bendel, Du siehst mich reich, freigebig, gütig, Du wähnst es sollte die Welt mich verherrlichen, und Du siehst mich die Wele flieh'n und mich vor ihr verschließen. Bendel, sie hat gerichtet, di Welt, und mich verstoßen, und auch Du vielleicht wirst Dich von mir wenden, wenn Du mein schreckliches Geheimniß erfährst : Bendel, ich bin reich, freigebig, gütig, aber—o Gott——ich habe keinen Schatten !"—

„Keinen Schatten ?" rief der gute Junge erschreckt aus, und die hellen Thränen stürzten ihm aus den Augen.—„Weh mir, daß ich geboren ward, einem schattenlosen Herrn zu dienen !" Er schwieg, und ich hielt mein Gesicht in meinen Händen.—

Chamisso, Peter Schlemihl.

(B) Werner. Mensch, ich glaube, du liesest eben so wenig die Zeitungen, als die Bibel ?—Du kennst den Prinz Heraklius nicht? —Du kennst den Prinz Heraklius nicht ? den braven Mann nicht, der Persien weggenommen u nd nächster Tage die ottomanische Pforte einsprengen wird ? Gott sey Dank, daß doch noch irgendwo in der Welt Krieg ist ! Ich habe lange genug gehofft, es sollte hier wieder losgehen. Aber da sitzen sie und heilen sich die Haut. Nein, Soldat war ich, Soldat muß ich wieder seyn ! Kurz—(indem er sich schüchtern umsieht, ob ihn jemand behorcht) im Vertrauen, Just, ich wandere nach Persien, um unter Sr. Königlichen Hoheit, dem Prinzen Heraklius, ein paar Feldzüge wider den Türken zu machen.

Just. Du ?

Werner. Ich, wie du mich hier siehst! Unsere Vorfahren zogen fleißig wider den Türken, und das sollten wir noch thun, wenn wir ehrliche Kerls und gute Christen wären. Freilich begreife ich wohl, daß ein Feldzug wider den Türken nicht halb so lustig seyn kann, als einer wider den Franzosen; aber dafür muß er auch desto verdienstlicher seyn, in diesem und in jenem Leben. Die Türken haben dir alle Säbels mit Diamanten besetzt.—

Lessing, Minna von Barnhelm.

II. Uebersetzen Sie ins Deutsche :—

The philosopher Diogenes once made a voyage. But the vessel on which he was fell into the hands of pirates, who took crew and passengers to a slave-market and sold *them*. As Diogenes possessed nothing, the pirates had not been able to take anything *from* him ; and whilst the others tore their hair, he stood there quite indifferent and composed. When a buyer asked him, *what* (which) art he understood, he answered : "None."—What else he knew ? —Answer: "Nothing."—At last a rich man of Corinth bought him and made him overseer of his house and children. In this office Diogenes behaved so willing and sensible, that his master used to say, a good spirit had entered *the* (his) house with him.

III. Grammatik.

1 (*a*) Bilden Sie kausative Verben von :—hangen, neigen schwimmen, springen, wachen, biegen, trinken, folgen, sinken. (*b*) Geben Sie die Verben an, welche zwei Akkusative regieren.

2. Erklären Sie die Bedeutung der adjektivischen Suffixe bar, sam, en (ern), haft, icht, ig, isch, lich.

3. Statt welcher Zeitformen wird das Präsens oft gebraucht? Geben Sie Beispiele.

4. Zählen Sie die Fälle auf, wo die englische Präposition 'of' durch „von" ausgedrückt wird ; und fügen Sie kurze Beispiele hinzu

5. Uebersetzen Sie mit Vorweisung der Regel für die deutsche Konstruktion in jedem besondern Satze :—Es wird ein Irrthum sein. Ich hätte wohl Zeit hinzugehen. Es wird ihm gehorcht. Sie kamen gefahren. Man hat ihn reden ssen. Ich sah dich kommen. Er ist nirgends zu finden.

6. Ueberſetzen Sie mit ſorgfältiger Beachtung der deutſchen Sprachweiſe:—He said to me: 'I must set out on a journey.' The late elector is said to have been a great prince. They would neither listen to, nor think of it. Returning from our walk we met an old acquaintance. I blame you for having come too late. This is the place so beautifully described in that book.

IV. Litteratur.

1. Berichten Sie kurz was Ihnen über die germaniſch-gotiſche Vorzeit bekannt iſt. Welche ſchriftlichen Denkmäler rühren aus dieſer Periode her?

2. Schildern Sie den eigenthümlichen Charakter des ſchwäbiſchen Zeitalters, und nennen Sie die vorzüglichſten Minneſänger.

3. In wiefern haben die zwei ſchleſiſchen Schulen günſtig oder ſchädlich auf die deutſche Litteratur eingewirkt?

4. Schreiben Sie kurze Notizen über Bodmer, Rabener, von Hagedorn, Schlegel (I. E.); und erwähnen Sie ihrer beſten Schriften.

THIRD YEAR ADDITIONAL.

TUESDAY, APRIL 21ST:—AFTERNOON, 2 TO 5.

Examiner, ... C. F. A. MARKGRAF, M.A.

I. Ueberſetzen Sie aus Schiller's „Wilhelm Tell":
1. Aufzug. 4. Scene (Seiten 36–37).
2. Aufzug. 2. Scene (Seiten 62–63).

II. Ueberſetzen Sie aus Körner's „Leier und Schwert":—
Durch! (Seite 17)
Bundeslied vor der Schlacht (Seite 25).
Schwertlied (Seite 40).

III. Ueberſetzen Sie ins Deutſche:—

Thus did this truly German hero, Arminius, who was equally great whether in victory or in doubtful battle, behold his country freed from the danger of a foreign yoke. The rapidity and strength with which he roused himself in misfortune, and instilled new courage into his people, produced its salvation. And be it remembered, he had not to contend merely with the rising or sinking power of the Romans, but

while it stood in its highest perfection and extent. Such an army as fought against the German forces in most beautifully regulated military array at Idistavisus, and near the Steinhuder Lake, even the most powerful empires of the earth could not, up to that time, have resisted.

Kohlrausch, *History of Germany.*

IV. Grammatik.

I. Ueberſetzen Sie mit Angabe der Regeln für die deutſche Konſtruktion :—Frederick the Great's deeds ; the king's choice of a minister ; an armchair richly carved and quaint ; when I venture to think of past days, happy ones ; they holy signs, oh Truth ! has deceit usurped ; I have earned myself applause ; he hastened to the help of his father ; a daring look beams from his eyes.

2. Erklären Sie mit Beifügung von Beiſpielen die Bildung der Doppelungszahlen (multiplicatives), Gattungszahlen (variatives), Wiederholungszahlen (iteratives), Bruchzahlen (fractionals), der adjektiviſchen Zuſammenſetzungen (dimidiatives) mit halb, und der ordnenden Zahladverbien (ordinal adverbs.)

3. Geben Sie die Fälle an, die ſich auf den Gebrauch des Akkuſativs mit Verben und Adjektiven beziehen.

III. Die Deutſche Sprache (Schleicher).

1. Zählen Sie die Sprachfamilien auf, welche zuſammen die Sippe der indo-germaniſchen Sprachen bilden.

2. Nennen Sie die Sprachfamilien, welche (*a*) die aſiatiſche, (*b*) die ſüdeuropäiſche, (*c*) die nordeuropäiſche Abtheilung der indo-germaniſchen Sprachſippe bilden.

3. Welche Periode im Leben der deutſchen Sprache beginnt mit der Trennung der einen deutſchen Grundſprache in mehrere Mundarten ?

4. Entwerfen Sie ein Schema, um die Verzweigung des deutſchen Sprachaſtes zu veranſchaulichen.

5. Wie läßt ſich Jacob Grimm's Geſetz der Lautverſchiebung in ſyſtematiſcher Ueberſicht darſtellen ?—Erläutern Sie dieſes Geſetz durch Beiſpiele.

6. Erklären Sie durch welche Sprachveränderungen der Uebergang von Althochdeutſch zu Mittelhochdeutſch geſchehen iſt.—Welche beſondere Mundart iſt hier unter Mittelhochdeutſch zu verſtehen ?

7. Welches iſt der durchgreifende Unterſchied zwiſchen Mittelhochdeutſch und Neuhochdeutſch ?—Iſt das Neuhochdeutſche eine ſpätere Form der mittelhochdeutſchen Hofſprache ?

THIRD YEAR HONOURS.

SATURDAY, APRIL 25TH :—MORNING 9 TO 1.

Examiner.....C. F. A. MARKGRAF, M.A.

I. Uebersetzen Sie aus Wieland's „Oberon" :—

Seite 18. Nummern 52 & 53.

Seite 36. Nummern 48 & 49.

1. Welcher Quelle hat Wieland einen großen Theil der Materialien zu diesem epischen Gedichte entlehnt ?—Berichten Sie kurz die Zwischenfälle der Verschürzung in den Gesängen, die Sie gelesen haben.

2. Wie ist dieses Werk von Wieland's deutschen Zeitgenossen aufgenommen worden ? Wie hat sich Goethe darüber geäußert ?

3. Lassen sich in der gegenwärtigen Ausgabe des Gedichts bezüglich der Form und Bearbeitung wesentliche Abweichungen von der Originalausgabe vorweisen ?

II. Litteratur.

1. Was können Sie über die Handlung und Darstellung von Lessing's Drama „Minna von Barnhelm" aussagen ? Nennen Sie seine wichtigsten dramatischen Werke. Erwähnen Sie auch seiner besonderen Verdienste als Kritiker.

2. Geben Sie eine kurze Uebersicht von Wieland's besten Schriften.

3. Schildern Sie die vorherrschende geistige Richtung in der 'Sturm und Drangperiode,' und die Einwirkung derselben auf das deutsche Schriftthum.

4. Machen Sie kurze, kritische Bemerkungen über Goethe's „Götz von Berlichingen" und „Tasso",—und über Schiller's „Räuber" und „Wilhelm Tell".

5. In welche Zeit fällt die Gründung der ersten Romantischen Schule? Welche Aufgabe haben sich die Mitglieder dieser Schule gestellt ? Nennen Sie die vornehmsten unter ihnen. Erwähnen Sie auch der Schriftsteller, die als Häupter der zweiten Romantischen Schule gelten.

6. Geben Die eine kurze Lebensskizze von Theodor Koerner.

7. Vergleichen Sie die lyrische Poesie von Uhland und Heine.

HEBREW.

ELEMENTARY COURSE.

THURSDAY, APRIL 16TH:—MORNING, 9 TO 12.

Examiners,..... { REV. PROF. D. COUSSIRAT, B.A., B.D.
REV. JAS. AWDE, B.A.

1. Translate into English:

(1) אָנֹכִי מַמְטִיר עַל הָאָרֶץ .

(2) מִי בָרָא אֶת הַשָּׁמַיִם וְאֶת הָרוּחַ וְאֶת הַכּוֹכָבִים .

(3) וּבְדֶרֶךְ חַטָּאִים לֹא עָמָד .

(4) סָבְבוּ אֶת־הָעִיר .

(5) מָצָא חֵן בְּעֵינֵי הַמֶּלֶךְ .

(6) נִלְכַּד אֲרוֹן הָאֱלֹהִים .

2. *(a.)* Render into Hebrew: (1) This good man. (2) These high mountains. (3) The word which I have spoken. (4) We have sons and daughters. (5) Five Kings. (6) Twenty provinces. (7) Learn *(ye, masc.)* wisdom. (8) They have taught wisdom.

3. Parse fully: (1) מַמְטִיר . (2) הָאָרֶץ . (3) וּבְדֶרֶךְ .
(4) סָבְבוּ . (5) הָעִיר . (6) בְּעֵינֵי . (7) נִלְכַּד .

(b.) Show the position of the accent on each of these words, and give rules.

4. Write the noun קוֹל with the definite article preceded by the prepositions ב כ ל in their contracted forms.

5. Show the changes of vowels in the definite article caused by the gutturals.

6. Add the suffixes of all the persons in the singular and plural to מֶלֶךְ .

7. Explain the construct state.

8. What is the *nun epentheticum*, and where is it employed?

9. State the use of the Infinitive Absolute.

10. Write out (1) the short paradigm of the Kal, Niphal, Piel and Hiphil of לָמַד; (2) in all moods and tenses the verb הָיָה in the Kal form.

INTERMEDIATE EXAMINATION.

WEDNESDAY, APRIL 15TH:—MORNING, 9 to 12.

Examiners,..... { REV. PROF. D. COUSSIRAT, B.A., B.D.
REV. GEO. WEIR, L.L. D.

1. Translate into English: (1) Genesis chap. I, verses 25-28, inclusive; (2) Exodus chap. XX, verses 21-26, inclusive; Deuteronomy chap. XXXII, verses 48-52, inclusive.

2. *(a)* Parse fully the following words, giving in the case of verbs, the class to which each belongs, and in the case of nouns the absolute and construct states, singular and plural: (1) וַיְהִי (2) יוֹם (3) תּוֹצֵא (4) לִמְינָהּ (5) בְּהֵמָה (6) וַיַּרְא (7) נַעֲשֶׂה (8) הָרִמֵּשׂ (9) נִנַּשׂ (10) אֶת־עֹלֹתֶיךָ (11) אַזְכִּיר (12) תַּעֲשׂוּן *(b)* Show the position of the accent on these words and give rules in each case.

3. Write out the construct singular and the absolute and construct dual of (1) עַיִן (2) אֹזֶן (3) שֵׁן (4) רֶגֶל

4. Name (1) the different conjugations or species of the verb, with the origin of each name; (2) the different classes of irregular verbs, with their names and their origin, and give examples in each case.

5. Give the Hebrew for (1) My God, (2) Our Lord, (3) Her words, (4) Your words, with pronominal suffixes of both genders.

6. Give the personal and demonstrative pronouns, singular and plural of all genders.

7. Write out (1) the short paradigm of every conjugation of פָּקַד (2) the short paradigm of the Piel and Hiphil of גָּלָה and סָבַב.

8. State (1) the other purposes for which the Hebrew future is employed besides expressing what is to come; (2) the change in its form when so used.

9. Write explanatory notes on (1) בָּרָא, יָצַר and עָשָׂה; (2) נֶפֶשׁ and רוּחַ; (3) אֶרֶץ and אֲדָמָה.

10. Render into Hebrew: (1) I am thy father and thou art my son. (2) I am thy mother and thou art my daughter. (3) We are thy servants and thou art our Lord. (4) We have good books. (5) In six days God created the world.

ADVANCED COURSE.

FRIDAY, MARCH 27TH:—AFTERNOON, 2 to 5.

Examiners,..... { REV. PROF. D. COUSSIRAT, B.A., B.D. / REV. JAS. AWDE, B.A.

1. Translate into English:
   1. Ecclesiastes, chap. III, verses 16-22 inclusive;
   2. " " XII, verses 1-7 "
   3. Job, " IV, verses 12-21 "

2. Translate into Hebrew: (1) He is going to the assembly. (2) Two are better than one. (3) Put forth thy hand on him. (4) Whence comest thou? (5) Return, O my soul, to the Lord. (6) Fear God and honor good men. (7) The Spirit of God has visited us. (8) There is a time to die. (9) He has not seen the face of God. (10) Hear, son of man! the Lord our God is one Lord.

3. Parse fully in Ecclesiastes, chap. II, verse 3.

4. Write explanatory notes on: (1) בִּרְכוּ (2) מִלִּין (3) רְעוּת (4) זְמַן (5) פַּרְדֵּס distinguished from עֵת and מוֹעֵד (6) עֹלָם in Ecclesiastes, chap. III, verse 11. (7) קֹהֶלֶת.

5. Point and translate the Masoretic note at the end of the book of Ecclesiastes.

6. What is the meaning of: (*a*) מָסֹרָה? (*b*) כְּתִיב וְלֹא קְרִי? (*c*) קְרִי וְלֹא כְתִיב? (*d*) קְרִי וּכְתִיב? (*e*) Keri perpetuum? Give examples of (*e*)

7. What do you understand by the signs פפפ and פ, ססס and ם?

8. What are the Targums, and in what language are they written?

9. Give a short history of the Hebrew vowels and accents?

10. Compare the masculine and feminine plural terminations of nouns in Chaldee, Syriac and Arabic, with the masculine and feminine plural terminations in Hebrew.

THE NEIL STEWART PRIZE.

TRANSLATION.

FRIDAY, APRIL 24TH:—MORNING, 9 TO 12.

Examiners,..... ..... { REV. PROF. D. COUSSIRAT, B.A., B.D.
REV. JAS. AWDE, B.A.

1. Translate into English:
(1) Genesis, chap. ix. verses 1-10, inclusive;
(2) Habakkuk, chap. i. verses 12-17 "
(3) Psalm iii.

2. Parse fully: (1) וּמוֹרַאֲכֶם (2) נִתָּנוּ (3) מֵקִים (4) שַׁמְתּוֹ (5) וְהַבִּיט (6) בְּבַלַּע (7) בְּבִרְחוֹ (8) קָדְשׁוֹ (9) וְאִישְׁנָה (10) הוֹשִׁיעֵנִי.

3. Write explanatory notes on: (1) אָז חָלַף רוּחַ (Hab. i. 11); (2) כַּרְנַיִם (Hab. iii. 4); (3) שְׁעָבוֹת מַטּוֹת אֹמֶר (Hab. iii. 9); (4) קָנִיתִי אִישׁ אֶת־יְהוָה (Gen. iv. 1); (5) נְפִלִים (Gen. vi. 4).

4. Translate into Hebrew: (1) I cry unto thee. (2) The Lord is in his Holy temple. (3) The Lord God is my strength. (4) Blessed be the One who comes in the name of the Lord. (5) Nine hundred and fifty years. (6) In the sixth hundred and first year. (7) He was a mighty one in the earth. (8) This is the token of the Covenant. (9) Hear my prayer and save me. (10) Are you well?

5. Write fully, point, and translate the Masoretic notes of Genesis i. 1; ii. 4; Psalm i. 1 and 2.

6. Discuss the question of the date of Habakkuk's prophecy.

THE NEIL STEWART PRIZE.

GRAMMAR.

FRIDAY, APRIL 24TH:—AFTERNOON, 2 TO 5.

Examiners,..... { REV. PROF. D. COUSSIRAT, B.A., B.D. / REV. JAS. AWDE, B.A.

1. Show the influence of syllables on the quantity of vowels.

2. Explain the changes of vowels in the following words:
(1) דְּבָרִים (2) שִׁמִי (3) קָטְלוֹ (4) סִפְרִי (5) וַיֵּלֶךְ (6) כָּל־הָעָם
(7) הַחָזוֹן.

3. What changes of vowels are effected by the *Pause*? Give examples.

4. Point out the difference between קָטְלֵנִי and קָטְלִי, and state rules.

5. Give a paradigm of (1) preter. Hiphil of עָמַד; (2) of future Kal of נָגַשׁ; (3) of preter. Niphal of סָבַב; (4) of future Piel of גָּלָה.

6. Give a paradigm of דָּבָר and שָׁנָה.

7. What are the modes of expressing the comparative and superlative?

8. How are the Optative and Potential expressed in Hebrew?

9. Explain the use of the participle in Hebrew.

10. What is the arrangement of words in the Hebrew tongue?

CHEMISTRY AND NATURAL SCIENCES.

FIRST YEAR.

CHEMISTRY.

THURSDAY, APRIL 9TH : MORNING, 9 to 12.

Examiner,.....B. J. HARRINGTON, B.A., Ph.D.

1. How is ordinary Phosphorus obtained ? How converted into the Red modification. In what respects do the two modifications differ from one another ?

2. How is Sulphuric Acid made ? What are its properties ? How is it detected in solutions ?

3. Give equations to illustrate the changes which take place (*a*) when a solution of Argentic Nitrate is added to one of Hydrogen Disodium Phosphate, and (*b*) when Hydrochloric Acid is poured upon Sodium Carbonate.

4. Copper and strong Sulphuric Acid are heated together. What gas is given off, and what are its properties ?

5. A substance is supposed to be Arsenious Anhydride. How would you prove that such is the case ?

6. Describe Leblanc's process for the manufacture of Sodium Carbonate, giving equations.

7. C_2H_5H, C_2H_5OH, $C_2H_4O_2$—Name these compounds and explain the relationship between them.

8. State briefly the chemical principles involved (*a*) in Bread-making and (*b*) in Soap-making.

9. How would you make an analysis of an organic substance containing Carbon, Hydrogen and Oxygen ?

10. Explain the terms Dextrose and Levulose. How would you obtain Alcohol from either of these substances ?

11. What is an Amalgam, an Acid Salt, a Homologous Series, a Carbohydrate, a Ferment ?

12. Name the compounds represented by the following formulæ :— Sb_2S_3 BiCl , SiO_2, H_3BO_3, KNO_3, $NaHSO_4$, CH_4, $C_6H_{12}O_6$.

SECOND YEAR.

BOTANY.

FRIDAY, APRIL 17TH :—MORNING, 9 TO 12.

Examiner,.....D. P. PENHALLOW, B.Sc.

1. Explain the essential features of (*a*) sexual reproduction, and (*b*) vegetative reproduction. Examples.

2. Show what elements enter into the composition of plants, and which are regarded as most essential.

3. Show what physiological changes occur when a green plant is grown in the dark and again in the light.

4. Explain the general process of metastasis and its resulting products.

5. Show what changes occur in plants grown under the influence of (*a*) red light and (*b*) blue light.

6. Explain the internal changes which occur when a sensitive organ is irritated, and show how this influence may be transmitted through an organ.

7. Explain the mechanical movement of sap; show when it occurs and under what influences.

8. Explain the functional value of the prothallus—as in ferns—and show its corresponding structure in Phenogams.

9. Explain the reproductive process of ferns. Indicate the sexual and asexual generations.

10. The Seed; its origin, position and component parts.

THIRD YEAR.

ZOOLOGY (*In Part*).

WEDNESDAY, APRIL 15TH :—MORNING, 9 TO 12.

Examiner,.....J. W. DAWSON, LL.D., F.R.S.

1. State the characters of the *Anthozoa* as illustrated by any common animal of the class, and explain the nature of corals and coral reefs.

2. State the characteristic differences of *Annulata*, *Crustacea* and *Arachnida*.

3. Describe the external structures of Insects, and the stages of their metamorphosis.

4. Give the characters of the *Reptilia* and *Aves* and the distinctions between them.

5. How is respiration performed in Insects, Tube-dwelling Worms, Lamellibranchiates, and Pulmonates.

6. Describe the highest class of the *Mollusca*, and give an example of each of its orders, with a statement of the points in which these differ.

7. Name and state the place in the classification of the animals producing Sponge, Coral, Mother-of-pearl, Silk, and explain the nature of these products.

8. Describe *Amphioxus* or *Petromyzon*, and state their relations to the other fishes.

9. State the characters of the *Brachiopoda*, and give examples of the Families, recent and fossil.

10. State the characters of the *Decapoda*, *Tunicata*, *Chelonia*, with examples.

11. What animals are indicated by the terms *Marsupialia*, *Myriapoda*, *Trilobites*, *Amphipoda*, *Rodentia*, *Nudibranchiata*: state their places in the system and give examples.

12. Describe the Specimens exhibited, referring them to their places in the System.

THIRD YEAR ADDITIONAL.

CHEMISTRY.

(Answer only ten questions).

THURSDAY, APRIL 9TH:—MORNING, 9 TO 12.

Examiner, ...B. J. HARRINGTON, B.A., PH.D.

1. Name the principal organic Alkaloids, and give tests for the detection of two of them.

2. Into what groups may the Inorganic Acids be divided for purposes of analysis? Give the group reagents. Describe also the detection of acids in insoluble bodies.

3. Give drawings and brief descriptions of apparatus to be employed in the preparation and collection of (*a*) Hydrogen, (*b*) Nitrogen, (*c*) Nitric Acid, (*d*) Hydric Sulphide.

4. How would you distinguish an Oxalate from a Phosphate, a Citrate from a Tartrate, a Succinate from a Formate?

5. Barium Carbonate is added to a cold solution containing Iron, Nickel, Chromium, Aluminium and Manganese. What action takes place?

6. Describe the detection and separation of Antimony, Tin and Arsenic when present in the same solution.

7. Name the metals of groups IV. and V. How would you separate the members of group IV.

8. Describe the separation of Nickel and Cobalt (*a*) by means of $NaClO$ and (*b*) by means of KNO_2.

9. A salt is heated before the blowpipe on charcoal and yields a metallic bead which may be Bismuth, Antimony or Tin. How would you readily find out which metal is really present?

10. What takes place (*a*) when dry Chlorides are heated with H_2SO_4 and $K_2Cr_2O_7$, and (*b*) when compounds of Manganese are fused with a mixture of Potassium Nitrate and Carbonate?

11. Give tests for the detection of Gold when in solution.

12. How may Chromates be reduced to Chromic salts?

13. How would you distinguish Lead Chromate from Bismuth Chromate?

14. Name each of the following compounds and state how they may be prepared:—

$$Cu_2Fe(CN)_6, \quad Hg_2Cl_2, \quad 2KCl + PtCl_4, \quad Fe_2(OH)_6,$$
$$BaC_2O_4, \quad Pb_3(PO_4)_2, \quad BiOCl, \quad 2(As(CH_3)_2)O.$$

15. How would you make a quantitative analysis of a specimen of Spathic Iron Ore?

THIRD YEAR ADDITIONAL.

THEORETICAL CHEMISTRY.

(Students in Arts to answer eight questions only).

SATURDAY, APRIL 11TH :—MORNING, 9 TO 12.

Examiner,..... ..... B. J. HARRINGTON, B.A., PH.D.

1. Distinguish between the following kinds of formulæ :—(*a*) Empirical, (*b* Molecular, (*c*) Structural, (*d*) Typical. Give examples of each.

2. Give the formulæ and names (*a*) of the Oxides of Manganese, (*b*) of the Sulphides of Iron.

3. How may determinations of the Specific Heat of compounds aid us in some cases in ascertaining the Atomic Weight of an element ?

4. The Molecular Weight of a gas or vapour is equal to the density multiplied by 28.88. Explain this.

5. What is the Periodic Law of the Elements ? Give illustrations.

6. Explain the terms Polymerism, Isomerism, Metamerism, and give examples of each :

7. Two organic bodies gave on analysis the following results. Calculate the formula of each :

	I.	II.
Carbon.	39.96	31.95
Hydrogen.	6.74	4.05
Oxygen.	53.30	64.00

8. Explain by means of graphic formulæ the supposed differences in the constitution of Glyceryl and Allyl.

9. State what you know with regard to the probable constitution of Formic and Oxalic Acids.

10. $H-\overset{\displaystyle H}{\underset{\displaystyle H}{\overset{|}{\underset{|}{C}}}}-(NH_2)'$ $N\left\{\begin{matrix}CH\\H\\H\end{matrix}\right.$ For what compound do these formulæ stand, and what two views as to its constitution do they indicate ?

11. How may Urea be prepared ? To what class of compounds does it belong ? What view is commonly held with regard to its constitution ? Give examples of compounds which it forms with other bodies.

12. Upon what reactions do the detection and determination of Nitrogen in organic bodies depend ?

THIRD YEAR ADDITIONAL.

MUSEUM WORK IN PALÆONTOLOGY.

SATURDAY, APRIL 25TH :—MORNING, 9 TO 12.

Examiner,.....J. W. DAWSON, LL.D., F.R.S.

1. In what formations do you find the first specimens of the following groups, and under what generic forms ?

(*a*) *Echinoidea*, (*b*) *Orthoceratidæ*, (*c*) *Graptolitidæ*, (*d*) *Insecta*, (*e*) *Pulmonata*, (*f*) *Decapoda*.

2. Trace any of the following groups upward in geological time from its origin to its extinction, so far as known, and state its representative-genera in each system of formations.

(*a*) *Trilobites*, (*b*) *Ammonitidæ*, (*c*) *Tabulata*, (*d*) *Cystidea* (*e*) *Orthidæ*.

3. Give as many examples as you can of genera or families which have continued from the Palæozoic to the modern period.

4. What is the range in Geological time of the following genera :—*Calymene*, *Productus*, *Zaphrentis*, *Nummulites*, *Goniatites*, *Pleurotomaria*.

5. Trace any other group of animals through its Geological history. italics.

THIRD YEAR HONOURS.

MINERALOGY.

THURSDAY, APRIL 23RD :—MORNING, 9 TO 12.

Examiners,..... { J. W. DAWSON, LL.D., F.R.S.
B. J. HARRINGTON, PH.D., F.G.S.

1. Distinguish (*a*) between inclined and parallel Hemihedrons, (*b*) between vertically direct and vertically alternate Hemihedrons. Give examples.

2. Enumerate the principal forms of the Monoclinic System, giving symbols for each.

3. Show that the following expression is true for prisms of the second order in the Hexagonal system :—

$$a : 2a : 2a : \infty c.$$

4. What is a Zone, a Parameter, a Primary Form, a Brachydome, a Hemi-orthodome, a Paramorph, a Composition Face?

5. Distinguish between Pyramids of the first, second and third orders in the Tetragonal System. Give symbols.

6. What are the principal irregularities of surface exhibited by crystals?

7. Distinguish between Fluorescence and Phosphorescence, and name any minerals in which these properties may be observed.

8. Compare Pyroxene and Hornblende as to general form and chemical composition. Tabulate also the varieties of each species, and point out their differences in composition.

9. Give the general characteristics of the Feldspars. What view is held by many mineralogists with regard to the constitution of the species intermediate between Albite and Anorthite? Describe Microcline and Perthite.

10. Give the blowpipe characters of any five of the following minerals:—Titanite, Tourmaline, Stilbite, Limonite, Stibnite, Bornite, Fluorite.

11. Describe the specimens on the table.

DETERMINATIVE MINERALOGY.

AFTERNOON, 2 TO 6.

This examination will be held in the Chemical Laboratory.

B.A. ORDINARY EXAMINATION.

GEOLOGY.

TUESDAY, APRIL 14TH.—MORNING, 9 TO 12.

Examiner,.....J. W. DAWSON, LL.D., F.R.S.

1. State and explain the data for the determination of the relative ages of stratified rocks, and the manner of applying them.

2. State the distribution of the Laurentian and Huronian rocks in North America, and mention their distinctive lithological characters.

3. Describe the Siluro-Cambrian of Canada, and state how it is represented in England.

4. Explain the peculiarities of the Oriskany, Calciferous and Potsdam, with their geological relations and characteristic fossils.

5. How would you distinguish by fossils the Trenton Limestone from the Niagara Limestone, and this from the Corniferous?

6. State and explain the classification of the Kainozoic or Tertiary formations, with special reference to their animal fossils.

7. What are the geological relations of the coal of Vancouver's Island and the lignite of the Western Territories.

8. Explain the supposed origin of boulder-clay and the causes of the distribution of boulders.

9. Give in tabular form the subdivisions of the Carboniferous, Trias, and Cretaceous in Canada and in Europe.

10. Name the more characteristic fossils of two of the following: Acadian Helderberg, Carboniferous Limestone, Pleistocene.

11. State the zoological or botanical and geological relations of *Favosites*, *Lepidodendron*, *Calamites*, *Productus*, *Dadoxylon*, *Ammonites*, *Psilophyton*, *Nummulites*, *Paradoxides*, *Palæoniscus*.

12. State the geological formations to which the fossils exhibited belong, and name the fossils.

B A. ORDINARY EXAMINATION.

ZOOLOGY.

TUESDAY, APRIL 14TH:—AFTERNOON, 2 TO 5.

Examiner,.....J. W. DAWSON, LL.D.

1. State the general characters of the *Protozoa*, and explain their division into classes or sub-classes, with examples.

2. How would you distinguish an animal of the class *Anthozoa* from a Hydroid or a Polyzoon?

3. State the characters of the *Echinodermata* as illustrated by any common animal of the class.

4. Name the classes of the *Mollusca*, and characterise two of them, with examples.

5. State and define the more important groups of recent and fossil *Crustacea*.

6. Describe the external structures of Hexapod Insects, and the grounds of their division into orders.

7. State the distinctive characters of the class *Pisces*, and its division into orders.

8. State fully the characters of the *Amphibia*, and the distinction between them and Reptiles proper.

9. What structures are indicated by the following terms:—Cilia Corallum, Pedicellaria, Lingual Ribbon, Tentacle, Tracheæ, and in what animals are these structures found?

10. State the differences between *Pulmonates*, *Pteropods* and *Prosobranchiates*, between *Myriapods* and true *Insects*, or between *Dibranchiate* and *Tetrabranchiate Cephalopods*, with examples.

11. Describe, and refer to their provinces and classes, the specimens exhibited.

B. A. ORDINARY EXAMINATION ADDITIONAL.

PRACTICAL CHEMISTRY.

THURSDAY, APRIL 9TH:—MORNING, 9 TO 12.

Examiner,.....B. J. HARRINGTON, B.A., Ph.D.

1. Barium Chloride was added to a solution of Potassium Sulphate until no further precipitation took place, and the Barium Sulphate found to weigh 0.85 grm. How much Potassium Sulphate was present in the solution?

2. How would you determine (*a*) the proportion of Carbonic Anhydride and (*b*) that of Lime in a specimen of Calcite?

3. Calculate the percentage composition of Ferrous Ammonium Sulphate ($FeSO_4 (NH_4)_2 SO_4 + 6H_2O$).

4. How would you estimate the Copper in a specimen of Blue Vitriol?

5. Describe the estimation of Phosphoric Acid by means of Magnesia-mixture.

6. Magnesia-mixture was added to a solution of common Sodium Phosphate ($Na_2 HPO_4 + 12H_2 O$), and the precipitate produced found, after gnition to weigh 0.45 grm. How much of the crystallised Phosphate was ipresent in the solution?

7. Name the principle acids whose Silver salts are insoluble in dilute Nitric Acid.

8. How would you distinguish a Cyanide from a Bromide, a Nitrate from from a Chloride, a Sulphite from a Sulphate, a Borate from a Phosphate?

B. A. HONOURS IN NATURAL SCIENCE.

MINERALOGY.

THURSDAY, APRIL 2ND :—MORNING, 9 TO 12.

Examiners,..... { J. W. DAWSON, LL.D., F.R.S.
B. J. HARRINGTON, B.A., PH.D.

1. Explain each of the following symbols :

$$m O m, \quad m O n, \quad \frac{\infty O n}{2}, \quad \infty \bar{P} \infty, \quad \infty \breve{P} n, \quad m \bar{P} \infty, \quad m \grave{P} \infty, \quad m \bar{P} n.$$

2. Name the minerals indicated by each of the following formulæ :—
$Fe As S$, $Ag_3 Sb S_3$, $Cu_8 Sb_2 S_7$, $Mg Al_2 O_4$, $(Mg, Fe)_2 Si O_4$, $Na_2 Al_2 Si_6 O_{16}$, $Al_2 Si O_5$, $3 Pb_3 As_2 O_8 + Pb Cl_2$.

3. Calculate the quantivalent ratios and formulæ of the minerals which gave the following results on analysis : —(1). — $Si O_2$ 37.52, $Al_2 O_3$ 31.38, $Ca O$ 0.35, $Na_2 O$ 25.16, $K_2 O$ 0.78, Cl 6.91, (2).—$Si O_2$ 37.50, $Al_2 O_3$ 18.65, $Fe_2 O_3$ 1.07, $Cr_2 O_3$ 4.95, $Ca O$ 36.13, $Mg O$ 0.52.

4. What faces are commonly exhibited by crystals of the following minerals :—Fluorite, Calcite, Leucite, Zircon, Wernerite, Staurolite, Apatite ? Give the symbols in each case.

5. In what ways are pseudomorphs produced ? Give examples.

6. Give the hardness and cleavage of Topaz, Orthoclase, Garnet, Pyroxene, Heulandite, Sphalerite.

7. State what you know with regard to the mode of occurrence of the following minerals in Canada :—Magnetite, Apatite, Pyrolusite, Gypsum, Labradorite, Albertite.

8. How would you distinguish native Antimony from native Bismuth, Millerite from Marcasite, Rutile from Brookite, Enstatite from Diallage, Analcite from Chabazite ?

9. Give the composition of each of the following minerals, and state to what species they belong :—Jeffersonite, Nephrite, Spessartite, Marmolite, Hyalite.

10. Give the blowpipe characters of Tetrahedrite, Cinnabar, Proustite, Corundum, Titanite, Natrolite.

11. Name the minerals exhibited, and give their characters as seen in the specimens.

GEOLOGY AND PALÆONTOLOGY. (*In Part.*)

SECOND PAPER.

THURSDAY, APRIL 9TH:—9 TO 12 A.M., AND 2 TO 5 P.M.

Examiners, ... { J. W. DAWSON, LL.D., F.R.S.
B. J. HARRINGTON, B.A., Ph.D.

1. Characterise the subdivisions of the Laurentian rocks of Canada, with reference to their mineral character, fossils and probable mode of deposition

2. State the geographical distribution of the Huronian and Kewenian in Canada and name the characteristic rocks of the typical districts.

3. Describe the Palæozoic geology of the vicinity of Montreal, naming characteristic fossils, and stating the equivalents of the formations elsewhere and the igneous action of which there is evidence.

4. What formations in Canada would be indicated by the prevalence of the following genera:—*Dictyonema, Trinucleus, Strophomena, Pentamerus. Spirifer, Petraia, Paradoxides, Columnaria.*

5. Describe the following formations, and state their geological position, and special points of interest connected with them—Acadian, Chazy, Salina.

6. Compare the rocks and fossils of the Quebec Group with those of corresponding formations in the New York series and in England. State the distribution of the Group in Canada.

7. Give in a tabular form the series of Upper Silurian rocks in Canada, with their European equivalents, and describe one of the formations, naming some of its fossils.

8. Describe shortly, or figure *Eozoon, Scolithus, Conocoryphe, Ambonychia, Ophileta, Tetradium, Murchisonia, Stromatopora, Piloceras*, and state their geological relations.

9. How are the subdivisions of the Cambrian of Britain represented in Eastern America?

10. Draw a line of section from the Upper Ottawa to the upper end of Lake Erie, and indicate the formations cut by it and their geological relations.

EXAMINATION IN SPECIMENS.

Refer the specimens exhibited to their geological formations, and to their places in the Zoological classification.

GEOLOGY AND PALÆONTOLOGY.

THIRD PAPER.

TUESDAY, APRIL 21ST:—9 A.M. TO 12, AND 2 TO 5 P.M.

Examiners,..... { J. W. DAWSON, LL.D., F.R.S.
B. J. HARRINGTON, B.A., PH.D.

1. What is the age, chemical or organic nature, and what the origin of Chalk, Greensand and Nummulitic limestones?

2. Explain the order of succession of Cretaceous and Tertiary Deposits in the Western Territories of Canada, and notice their fossils, useful minerals, and conditions of deposit.

3. Describe the Post-pliocene deposits of Canada and Western Europe and explain the various theoretical views as to the climate which they indicate.

4. What is the present state of knowledge respecting the relations of the Triassic, Cretaceous and Tertiary Floras, with respect to their general resemblances and differences, and in comparison with modern plants?

5. In what formations and under what generic forms do the following groups first appear:—*Marsupialia*, *Myriapoda*, *Amphibia*, *Aves*, *Ammonitidae*, *Acrogens*, *Ganoidea*.

6. Tabulate the Mesozoic Formations of England, and state their equivalents in Canada, as far as known.

7. State fully the geological and zoological or botanical relations of the following fossils: *Ventriculites*, *Gryphea*, *Mosasaurus*, *Beryx*, *Calamites*, *Psilophyton*, *Peeopteris*.

8. State the lithological character, geological ages and characteristic fossils of the following formations:—Corniferous, Horton Series, Permo-Carboniferous.

9. To what geological ages do the principal foldings of the crust of the earth in Eastern or Western North America belong. State their characters and directions.

10. Mention the leading coal districts of Eastern Canada and their geological relations. What fossil plants are characteristic of them.

EXAMINATION IN SPECIMENS.

Name the Fossils contained in the specimens exhibited, and refer them to their respective Geological Formations.

PRACTICAL GEOLOGY.

Fourth Paper.

Saturday, April 25th:—Morning, 9 to 12.

Examiners,..... { J. W. Dawson, LL.D., F.R.S.
B. J. Harrington, B.A., Ph.D.

1. What are the instruments to be used and facts to be recorded in examining a Rock Section or exposure ?

2. Explain the methods of producing Geological Maps, and the relations of maps to sections, with an example.

3. What are the methods of discovering and tracing Mineral Veins, and what irregularities and difficulties may be expected in these?

4. What are the indications of Faults when these cannot be actually seen ?

5. In the case of the junction of Igneous masses with beds, what facts are most important with reference to conclusions as to age ?

6. What theoretical conclusions can be formed from false bedding, slaty structure, unconformability.

7. Two formations occurring in the same locality contain—the one *Leptaena sericea, Strophomena alternata, Trinucleus concentricus ;* the other species of *Favosites, Stricklandinia, Spirifer, Pentamerus.* What are their relative ages, and what formations intervene ?

8. What are the most important cases of the occurrence of metallic minerals in Surface Deposits. Give illustrations.

9. Classify Mineral Veins, and explain the changes to which they are liable in passing from one formation to another.

10. Notice the mode of occurrence of gold, copper or ores of iron, in any one of the mining districts in Canada.

11. Notice the parts which would be most important in describing or determining a Trilobite or a Crinoid, and illustrate by figures.

LITHOLOGY (INCLUDING MICROSCOPIC CHARACTERS OF MINERALS).

THURSDAY, APRIL 23RD:—MORNING, 9 TO 12.

Examiners,..... { J. W. DAWSON, LL.D., F.R.S.
B. J. HARRINGTON, B.A., PH.D.

1. Describe the Rosenbusch microscope, and state how it may be used (*a* in determining the refractive indices of minerals, and (*b*) in measuring extinction angles.

2. What are the optical characters of Tetragonal and Orthorhombic minerals as studied in thin sections with the polarization microscope?

3. Explain the significance of the terms Micro-granite, Vitrophyre, Granophyre, Felsophyre.

4. Distinguish between perlitic, spherulitic and axiolitic structures. In what rocks may they be observed?

5. State what you know with regard to the order of solidification of minerals in eruptive rocks.

6. Olivine, Garnet, Acmite, Microcline, Leucite, Nosean. Give the microscopic characters of these minerals, and name rocks in which they occur.

7. What are the principal rocks containing Nepheline as an essential constituent? Describe them briefly.

8. Basalt, Augite-Andesite, Trachyte. Describe these rocks and their mode of occurrence.

9. Give a tabular classification of the sedimentary rocks.

10. Describe each of the following rocks, and discuss their origin: Loess, Argillite, Gneiss, Norite, Breccia.

11. Fluxion-structure, Crystallite, Amygdule, Viridite, Liquid-cavity, Glass-cavity. Explain each of these terms.

Determination of rock-specimens, afternoon, 2 to 4.

FACULTY OF APPLIED SCIENCE.

FACULTY OF
APPLIED SCIENCE.

ENTRANCE, PRIZE & SCHOLARSHIP EXAMINATIONS.

SECOND YEAR MATRICULATION.

MATHEMATICS (First Paper).

Wednesday, September 24th: —Morning 9 to 12.

Examiner,..... ....G. H. Chandler, M.A.

1. One link (*i. e.*, one-hundreth) of a chain being 7.92 inches; prove that ten square chains make an acre.

2. Extract the square root of

$$4 - 12a + 5a^2 + 14a^3 - 11a^4 - 4a^5 + 4a^6$$

3. Reduce the fractions:

$$\frac{7x^2 - 23xy + 6y^2}{5x^3 - 18x^2y + 11xy^2 - 6y^3} \text{ and } \frac{x^3 - 3x + 2}{x^3 + 4x^2 - 5}$$

to their lowest terms.

4. Solve the equations:

(1) $8x + \frac{7}{x} = \frac{65x}{7}$

(2) $\frac{4x+7}{19} + \frac{5-x}{3+x} = \frac{4x}{9}$.

5. Describe a square that shall be equal to a given rectilineal figure.

6. Describe a circle about a given regular pentagon.

7. If two triangles have an angle of the one equal to one angle of the other, and the sides about the equal angles proportionals, the triangles shall be similar.

8. If two parallel planes be cut by another plane, their common sections with it shall be parallel.

9. Find the sines and tangents of 30°, 120° and 180°.

10. Prove the relations:

(1) $\tan^2 A + \cot^2 A = \sec^2 A \operatorname{cosec}^2 A - 2$,

(2) $\tan(A + B) = \frac{\tan A + \tan B}{1 - \tan A \tan B}$,

(3) $\frac{\sin(A+B}{\sin A - \sin B} = \frac{\sin \frac{1}{2}(A + B)}{\sin \frac{1}{2}(A - B)}$,

(4) $\sec A + \tan A = \sqrt{\frac{1 + \sin A}{1 - \sin A}}$.

SECOND YEAR MATRICULATION.

MATHEMATICS (SECOND PAPER).

WEDNESDAY, SEPTEMBER 24TH :—AFTERNOON, 2 TO 5.

Examiner,.....G. H. CHANDLER, M.A

Prove that in a triangle

$$\tan \tfrac{1}{2}(A-B) = \left(\frac{a-b}{a+b}\right) \cot \tfrac{1}{2} C.$$

2. Show how to find the radii of the inscribed and escribed circles of a triangle in terms of the sides.

3. Solve the equations in which

(1) $a = 62.73$, $b = 30.80$, $A = 107° 3' 13''$,
(2) $a = 173$, $b = 123$, $C = 22° 13' 30''$,
(3) $a = 1$, $b = 1.32$, $c = 0.75$.

4. The angle of elevation of a tower 100 feet high and due north of an observer was 50°; what will be the angle of elevation after the observer has walked due east 300 feet?

MATHEMATICAL PRIZE EXAMINATION.

WEDNESDAY, SEPTEMBER 24TH :—MORNING, 9 TO 12.

Examiner,.....G. H. CHANDLER, M.A.

1. Find the equation of a line which passes through the point (2,—1) and is parallel to the line $2x-3y=5$.

2. What is the length and equation of the perpendicular from the origin on the line thus determined?

3. Find the centre and radius of the circle $x^2+y^2+4x-3y=1$, and the equation of that diameter of the circle which makes an angle of 45° with the axis of x.

4. A point moves so that the sum of the squares of its distances from the four sides of a given square is constant; find the locus of the point.

5. The equation of a cord of the hyperbola $4x^2-9y^2=64$ is $2x-9y=8$; find the length of the cord, and determine the eccentricity of the hyperbola.

6. Differentiate the functions :

(1) $\dfrac{x^4}{x+\sqrt{1-x}}$

(2) $\log(x+\sqrt{1-x^2})$,

(3) x^c,

(4) $\log(\sec x)$.

7. Integrate

(1) $\dfrac{2\,x\,dx}{(1+x^2)^2}$,

(2) $\dfrac{2\,dx}{x^2-2}$,

(3) $\dfrac{(3\,x^2-1)\,dx}{x\,(x+1)\,(x-1)}$

(4) $\cos^2 x\,dx$.

9. Find the radius and altitude of the greatest cylinder that can be cut from a given oblate spheriod whose semi-axes are a and b.

10. Find by integration the volume (1) of a prolate spheroid, (2) of a right circular cone.

11. In any triangle

$$\tan A+\tan B+\tan C=\tan A\tan B\tan C.$$

12. The hypothenuse c of a right-angled triangle $A\,B\,C$ is trisected at the points, $D\,E$; prove that if $C\,D$, $C\,E$ be joined, the sum of the squares of the sides of the triangle $C\,D\,E$ is $\frac{2}{3}\,c^2$

13. The area of a quadrilateral is $\frac{1}{2}\,a\,b\sin A$, where a and b are the lengths of the diagonals and A the angle between them.

BURLAND SCHOLARSHIP.

(OPEN TO STUDENTS ENTERING THE SECOND YEAR.)

INORGANIC CHEMISTRY.

SATURDAY, OCTOBER 11TH : — MORNING, 9 TO 12.

Examiner,..... ...B. J. HARRINGTON, B.A., PH.D.

1. What gases are produced when Oxalic Acid is heated with Sulphuric Acid? How would you separate and identify them?

2. Explain the terms quantivalence and atomicity. What is the atomicity of Carbon, Sulphur, Chlorine, Nitrogen, Arsenic, Barium, Iron, Potassium?

3. For what do the following formulæ stand? Explain fully the significance of each of them:

H_2SO_4; H_2O, SO_3; $H_2 = O_2 = SO_2$; $(HO)_2 = SO_2$.

$$\left.\begin{matrix}(SO_2)'' \\ H_2\end{matrix}\right\} O_2; \qquad H-O-\overset{O}{\overset{\|}{\underset{\|}{S}}}-O-H.$$
$$O$$

4. Give fully the information conveyed by each of the following equations:—

$Al_2 3(SO_4) + 6(NH_4)HO = Al_2H_6O_6 + 3(NH_4)_2SO_4$.

$K_4Fe(CN)_6 + 6H_2SO_4 + 6H_2O = 6CO + 2K_2SO_4 + 3(NH_4)_2SO_4 + FeSO_4$.

5 How many litres of Hydrogen would be necessary to reduce 50 grammes of Ferric Oxide to metallic Iron?

6. Supposing the Phosphorus to be entirely converted into P_2O_5, how many grammes would be required to remove the Oxygen from 1,000 grammes of air?

7. Two minerals called Proustite and Pyrargyrite are represented respectively by the formulæ Ag^3S^3As, and Ag_3S_3Sb. Which contains the larger proportion of Silver? Give the exact figures.

8. Give the names and more characteristic reactions of the metals of the Third Group.

9. How would you distinguish (*a*) a Sulphate from a Sulphite, (*b*) a Sulphite from a Thiosulphate, (*c*) a Chloride from a Bromide?

10. Give briefly the chemical properties of the following substances:—

Potassium Cyanide, Nitre, Calcium Hydrate, Mercuric Chloride, Silver Nitrate.

BURLAND SCHOLARSHIP.

ELEMENTS OF ORGANIC CHEMISTRY.

SATURDAY, OCTOBER 11:—AFTERNOON, 2 TO 5.

Examiner,.....B. J. HARRINGTON, B.A., PH.D.

1. Explain the value of determinations of vapour density and boiling points in the study of organic bodies.

2. How would you indicate the difference in the constitution of Methyl Formate and Hydric Acetate by means of rational formulæ.

3. What is the composition of Glycerine? What its properties? How may it be prepared? How converted into Nitro-Glycerine?

4. What are Glycols? Why are they sometimes spoken of as Alcohols?

5. What are substitution compounds? Give examples.

6. Explain the constitution of Nitrobenzol, Aniline and Carbolic Acid.

7. Give formulæ for the following substances:—Ethyl Nitrate, Propy Sulphide, Aldehyde, Lactose, Cyanogen.

8. How would you distinguish an Acetate from an Oxalate, and a Tartrate from a Citrate?

9. What compound is formed when Alcohol is heated with a solution of Bleaching Powder? Give its formula and percentage composition.

10. Explain the following equation:—

$$CaO + C_7H_6O_2 = C_6H_6 + CaCO_3.$$

SESSIONAL EXAMINATIONS, 1885.

FIRST YEAR.

GEOMETRY.

TUESDAY, APRIL 14TH:—MORNING, 9 TO 12.

Examiner,.....G. H. CHANDLER, M.A.

1. Divide a given straight line into two parts, so that the rectangle contained by the whole and one of the parts may be equal to the square on the other part.

2. Describe an isosceles triangle having each of the base angles double of the vertical angle.

3. If four magnitudes be proportional, they shall be proportional when taken by composition.

4. In a right-angled triangle, if a perpendicular be drawn from the right angle to the base, the triangles on each side of it are similar to the whole triangle and to each other.

5. If four straight lines be proportionals, the rectangle contained by the extremes shall be equal to the rectangle contained by the means; and if the rectangle contained by the extremes be equal to that contained by the means, the four straight lines shall be proportionals.

6. The sum of the squares on the sides of a quadrilateral exceeds the sum of the squares on the diagonals by four times the square on the line joining the middle points of the diagonals.

7. The rectangles contained by the opposite sides of a quadrilateral inscribed in a circle are equal to the rectangle contained by the diagonals.

8. Tangents at the extremities of a focal chord of a conic section intersect on the directrix. Prove this when the conic is a parabola.

9. From a given point draw a pair of tangents to a parabola.

10. An ellipse being considered as a section of a cone, prove that the sum of the focal distances of any point on the curve is constant.

FIRST YEAR.

TRIGONOMETRY (First Paper)—ALGEBRA.

Saturday, April 18th :—Morning, 9 to 12.

Examiner,.....G. H. Chandler, M.A.

1. Explain the changes in the sign and magnitude of the tangent as the angle increases from 0° to 360°.

2. Find geometrically the angles of which the cosines are respectively $\frac{1}{3}$ and $-\frac{1}{2}$.

3. Express the angle of a regular pentagon in degrees and in radians.

4. Show that

(*a*) $\tan A - \tan B = \dfrac{\sin (A-B)}{\cos A \cos B}$,

(*b*) $\dfrac{\sin A + \sin B}{\cos A + \cos B} = \tan \left(\dfrac{A+B}{2}\right)$,

(*c*) $\dfrac{\sin A + \sin B}{\sin (A+B)} = \dfrac{\cos \left(\dfrac{A-B}{2}\right)}{\cos \left(\dfrac{A+B}{2}\right)}$,

(*d*) $\sec 72° - \sec 36° = 2$.

5. Prove that

(*a*) $\sin A = 2 \sin \frac{A}{2} \cos \frac{A}{2}$,

(*b*) $1 + \cos A = 2 \cos^2 \frac{A}{2}$,

(*c*) $\frac{1 - \cos A}{\sin A} = \tan \frac{A}{2}$.

6. Find the square root of $a^2 b^{-2} + 2 a b^{-1} + 3 + 2 a^{-1} b + a^{-2} b^2$.

7. Show that the product of $3\sqrt{8}$, $2\sqrt[3]{6}$ and $3\sqrt[4]{54}$ is $216\sqrt[12]{6}$.

8. Solve the equations:

(*a*) $8x + \frac{7}{x} = \frac{65}{7} x$,

(*b*) $\frac{x+2}{x-1} - \frac{4-x}{2x} = \frac{7}{3}$,

(*c*) $\begin{cases} x^2 + y^2 = 25, \\ x + y = 1 \end{cases}$

(*d*) $\begin{cases} 2(x-y) = 3z - 2, \\ x + 1 = 3(y+z), \\ 2x + 3z = 4(1-y). \end{cases}$

9. Find the *G. C. M.* and *L. C. M.* of

$3x^2 - 2x - 1$ and $4x^3 - 2x^2 - 3x + 1$.

10. The greater of two numbers multiplied by their sum is 228, and their difference is 5; what are the numbers?

FIRST YEAR.

TRIGONOMETRY (SECOND PAPER).

TUESDAY, APRIL 21ST:—MORNING, 9 TO 12.

Examiner,.....G. H. CHANDLER, M.A.

1. Define a logarithm, and prove the rule for multiplication by logarithms.

2. In every triangle

$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}.$$

Show also that $\frac{a}{\sin A}$ is equal to the diameter of the circle circumscribed about the triangle.

3. Solve the triangles in which are given:

(1) $a = 2.29$, $b = 1.09$, $C = 131° 24' 44''$;

(2) $a = 212.5$, $b = 836.4$, $A = 14° 24' 25''$.

4. Find the area of the first triangle.

5. Two towers stand on a horizontal plane and their distance from each other is 120 feet. A person standing successively at their bases observes that the angular elevation of one is double that of the other; but when he is half-way between them their elevations appear complementary to each other. Show that the heights of the towers are 90 and 40 feet respectively.

6. A line AB in length 400 yards is measured close by the side of a river, and a point C close to the bank on the other side is observed from A and B. The angle $CAB = 50°$, and $CBA = 65°$; find the perpendicular breadth of the river.

SECOND YEAR.

MECHANICS.

TUESDAY, APRIL 14TH:—MORNING, 9 TO 12.

Examiner,..... .....G. H. CHANDLER, M.A.

1. Find the time in which a body, projected vertically with a velocity of 120 feet per second, will reach a height of 200 feet.

How long will it continue to ascend, and to what height?

2. A force P draws a weight W up a plane inclined at an angle α to the horizon. If friction be neglected show that

$$P = W \frac{\sin \alpha}{\cos \theta},$$

θ being the angle between P and the inclined plane.

3. But if friction be not neglected, and the angle of repose be ϕ, show that

$$P = W \frac{\sin (\alpha + \phi)}{\cos (\theta - \phi)}.$$

4. How much loss of work through friction occurs when a cylindrical axle revolves in a bearing? Prove the formula.

5. Find the inclination of a plane down which a body will slide by its own weight, the co-efficient of friction being 0.57.

6. Find graphically the centre of gravity of a trapezium.

7. Find the ratio P to W in the screw, the angle of repose being ϕ and the angle of the thread α.

8. Give the definition of a fluid. Distinguish between liquids and gases; also between the density and the specific gravity of a fluid.

9. A ship in dock is observed to rise 3 inches out of the water owing to the discharge of 50 tons of her cargo; find the area of her section at the water-line.

10. The radii of two spheres are 2 in. and 3 in., and their weights are 8 lbs. and 10 lbs.; find the ratio of their specific gravities.

SECOND YEAR.

CALCULUS.

SATURDAY, APRIL 18TH :—MORNING, 9 TO 12.

Examiner,..... G. H. CHANDLER, M.A.

1. Prove the formulæ for differentiating $r\,s$, $\frac{r}{s}$ and $\tan x$.

2. Show that

(*a*) $d\{\sqrt{x} - \log(1+\sqrt{x})\} = \dfrac{dx}{2(1+\sqrt{x})}$.

(*b*) $d\left(\dfrac{a+bx+cx^2}{x}\right) = \left(c - \dfrac{a}{x^2}\right)dx$,

(*c*) $d\left(\dfrac{e^x - e^{-x}}{e^x + e^{-x}}\right) = \dfrac{4\,dx}{(e^x + e^{-x})^2}$,

(*d*) $d\left(\dfrac{\sin x}{1+\tan x}\right) = \dfrac{\cos^3 x - \sin^3 x}{(\cos x + \sin x)^2}\,dx$,

(*e*) $d\{\tan^{-1}(e^x)\} = \dfrac{dx}{e^x + e^{-x}}$.

3. Show that the tangents to the curve $xy = a + bx + cx^2$ are parallel to the axis of x at the points where $x = \sqrt{\frac{a}{c}}$. What is the length of the sub-normal at the point where $x = 1$?

4. Expand $\sin x$ into a series of powers of x, and from the series calculate the value of $\sin 9°$ to 5 decimal places.

5. From the corners of a square whose side is a four equal squares are cut and the edges turned up to form a rectangular box. Show that the box will hold a maximum quantity when one side of each of the small square is $\frac{1}{6}\,a$.

6. Show that the minimum value of the fraction $\frac{(a-x)^3}{a-2x}$ is $\frac{2}{3}\frac{7}{2}\,a^2$.

7. Integrate $3x\,\frac{3}{2}\,dx$, $(4-x)^3\,dx$, $\frac{x\,dx}{x^2-4}$, $(1-\sin 2x)\,dx$.

8. Show that

(*a*) $$\int \frac{dx}{\sqrt{x-4x^2}} = \sin^{-1}(2\sqrt{x}),$$

(*b*) $$\int \frac{(3x^2-1)\,dx}{x(x-1)(x+1)} = \log(x^3-x),$$

(*c*) $$\int_{-a}^{+a} (a+x)^3\,dx = 4a^4,$$

(*d*) $$\int_{-\infty}^{+\infty} \frac{dx}{a^2+x^2} = \frac{\pi}{4}.$$

9. Find by integration the area between the axis of x, the parabola $y^2 = 2mx$, and any ordinate.

10. Find the co-ordinates of the centre of gravity of this area.

SECOND YEAR.

ANALYTIC GEOMETRY.

TUESDAY, APRIL 21ST :—MORNING, 9 TO 12.

Examiner, ... G. H. CHANDLER, M.A.

1. The straight lines joining the middle points of the adjacent sides of any quadrilateral form a second quadrilateral whose perimeter is equal to the sum of the diagonals of the first.

2. The equations of the three sides of a triangle are $10x + 5y = 4$, $3x - 2y + 6 = 0$, $y = 0$; what are the co-ordinates of the angular points? Find also those of the centre of gravity of the triangle.

3. Find the angle between the lines $2x - 3y + 5 = 0$; $3x + 4y = 0$.

4. The equation of a curve is $4xy - 3x^2a^2$; turn the axes through an angle whose tangent is 2, and show that the resulting equation is $x^2 - 4y^2 = a^2$.

5. Find the centre and radius of the circle $7x^2 + 3y^2 - 4y = (1 + 2x)^2$; find also the points in which it cuts the axes.

6. Give the definition of the tangent of a curve. Write down the equation of the tangent to $x^2 + y^2 = a^2$ at (x^1, y^1).

What is the equation of the tangent to the circle $x^2 + y^2 - 3x - 2y = 0$ at the origin?

7. This tangent passes through the point $(2, -3)$; show that $x - 8y$ is the equation of the chord of contact of the two tangents through this point.

8. Find the semi-axis and eccentricity of the ellipse $16x^2 + 25y^2 = 1600$. Find also the area of this ellipse.

9. Find the equation of the circle which passes through the vertex and extremities of the latus rectum of a parabola.

10. The normal at any point of an ellipse bisects the angle between the focal distances of that point.

THIRD YEAR.

MECHANICS.

SATURDAY, APRIL 18TH:—MORNING, 9 TO 12.

Examiner,..... G. H. CHANDLER, M.A.

1. State the relation between heat and mechanical work.

2. Find the amount of work saved by the use of friction wheels.

3. A uniform beam $A\,B$ rests upon a rough horizontal plane $A\,C$ and against a rough vertical wall $B\,C$ of the same material; show that in the limiting position of equilibrium the angle $A\,B\,C$ = twice the angle of repose.

4. Find the centre of pressure of a triangle having one side in the surface of a liquid.

5. Describe the siphon gauge and Wollaston's method of increasing its sensitiveness.

6. A cylinder 20 feet long is half filled with water and inverted with the open end just dipping into a vessel of water. Show that the water will fall 2.75 feet in the cylinder.

7. If the volume of the receiver of an air-pump be 4 times that of the barrel, how many strokes of the pump will be required to reduce the density 60 per cent?

8. Explain the method of calculating the velocity of efflux of liquids and gases through small orifices.

9. A rough plane rises 4 feet in 3 horizontal, the co-efficient of friction is 1-3, and a body is projected up the plane with a velocity 3g; find how far it moves along the plane, and the time before it returns to the starting-point.

10. A body moves in a vertical circle of 4 feet diameter and under the action of gravity. The velocity at the highest point is 12 feet per second; find the velocity at the lowest point.

THIRD YEAR.

SPHERICAL TRIGONOMETRY AND PRACTICAL ASTRONOMY.

TUESDAY, APRIL 21ST:—MORNING, 9 TO 12.

Examiner,.....G. H. CHANDLER, M.A.

1. What are the limits of the sum of the angles of a spherical triangle? Why?

2. In any spherical triangle

$$\sin \frac{A}{2} = \sqrt{\frac{\sin (s-b) \sin (s-c)}{\sin b \sin c}}.$$

3. How may an oblique-angled spherical triangle be solved: (1) given two sides and the included angle, (2) given two sides and an angle opposite one of them?

4. What is the equation of time? From what two causes does it arise? Mention the times at which each cause tends to give a maximum or minimum value to the equation of time.

5. Distinguish between sidereal and mean time. Find the exact reading of the Montreal mean time and sidereal clocks when they coincide this year.

6. Find the mean time of culmination of *Regulus* (Nautical Almanac p. 337) at Montreal to-day.

7. What will be the meridian altitude of this star at its culmination, assuming the latitude as 45° 31′?

8. The right ascension of a star being 5h. 5m. 50s., and its declination 45 50′ 33″, its altitude (corrected for refraction) was 27° 42′ 10″ at 23h. 5m. 50s. sidereal time; show that the latitude of the place of observation was 40° 20′ 10″.

9. Explain the method of obtaining longitude by means of moon culminations.

THIRD YEAR.

MATHEMATICS (ADVANCED).

THURSDAY, APRIL 23RD:—MORNING, 9 TO 12.

Examiner,.....G. H. CHANDLER, M.A.

1. The areas of parallelograms formed by tangents at the extremities of conjugate diameters of an ellipse are equal.

2. Given the base and the sum of the sides of a triangle; show that the locus of the centre of the inscribed circle is an ellipse whose major axis is the base of the triangle.

3. If $y^3 - 3y + x = 0$, show that $\frac{d^2y}{dx^2} = \frac{2y}{9(1-y^2)^3}$.

4. The heights above the ground of the top and bottom of a window are a and b; shew that at a horizontal distance $\sqrt{ab}$ from the building the window will subtend the greatest possible vertical angle, viz.,

$$\tan^{-1}\left(\frac{a-b}{2\sqrt{ab}}\right).$$

5. Integrate $(1+x^2)^{\frac{1}{2}} x^3\,dx$, $\frac{x^4\,dx}{(1-x^2)^{\frac{3}{2}}}$, $\frac{x\,dx}{\sqrt{2ax-x^2}}$, $x^2 \log x\,dx$, and $\frac{dx}{\sin x \cos^3 x}$.

6. Show that the curve $x^3 + y^3 = a^3$ is met by the axes in points of inflexion.

7. Show that $x + y = 0$ is an asymptote of the curve $x^5 + y^5 = 5a^3x$, and that both infinite branches of the curve lie above the asymptote.

8. Find an expression for the radius of curvature at any poin of an ellipse. Show that the radius of curvature at the extremity of the major axis is equal to half the latus rectum.

9. Show that the area included between the curves $y^2 = 2mx$ and $x^2 = 2my$ is $\frac{4}{3}m^2$.

10. Find the moment of inertia of a sphere about a diameter and also about a tangent line.

11. Calculate the velocity with which a particle, moving from an infinite distance under the action of gravity, would strike the earth, the resistance of the atmosphere being neglected.

12. Explain the meaning of the centre of suspension and centre of oscillation of a pendulum. Show that the times of oscillation about parallel axes through these points are equal.

B. A. SC. EXAMINATION.

MATHEMATICS.

WEDNESDAY, DECEMBER 17TH: — AFTERNOON, 2 TO 5.

Examiner,.....G. H. CHANDLER, M.A.

1. Show that

(1) $d\left(\frac{x^3}{\sqrt{(1-x^2)^3}}\right) = \frac{3x^2dx}{(1-x^2)^{\frac{5}{2}}}$,

(2) $d\left(\log \tan \frac{x}{2}\right) = \frac{dx}{\sin x}$,

(3) $\int \frac{x\,dx}{\sqrt{a^2+x^2}} = \sqrt{a^2+x^2}$,

(4) $\int_0^{\frac{\pi}{2}} x \cos x\,dx = \frac{\pi}{2} - 1$,

(5) $\int_0^{\quad} \frac{dx}{\sin x \cos^3 x} = \frac{1}{2\cos^2 x} + \log(\tan x)$.

2. Plot the cubical parabola $y = x^3$ from $x = 0$ to $x = 2$. Find also

(1) The area of this portion.
(2) The volumes of the solids formed by revolving this area around the axes.
(3) The centre of gravity of this area.
(4) Its moment of inertia about the axis of y.
(5) The equations of the tangent and normal at the point where $x = 2$.
(6) The lengths of the subtangent and subnormal at the same point.
(7) The position of the point of inflexion of the curve.

3. Show that the area of the maximum inscribed rectangle of an ellipse is half that of the circumscribed rectangle.

4. Given the base of a triangle and the length of the medial line drawn from one of its extremities; find the locus of the vertex.

5. The equation of a chord of the circle $x^2+y^2=4x+13y+9$ is $y=5x+2$; find the length of the chord.

6. Simplify $\frac{\sqrt{2}}{\sqrt{3}-\sqrt{2}}$ and show that $\sqrt{\frac{10+2\sqrt{5}}{10-2\sqrt{5}}}=\frac{1}{2}(\sqrt{5}+1)$.)

7. Show that

(1) $\operatorname{cosec} A-\cot A=\sqrt{\frac{1-\cos A}{1+\cos A}}=\tan\frac{A}{2}$,

(2) $\tan A+\tan B=\frac{\sin(A+B)}{\cos A\cos B}$,

(3) $\frac{\cos 27°-\sin 27°}{\cos 27°+\sin 27°}=\tan 18°$.

SECOND, THIRD AND FOURTH YEARS.

MATERIALS (PAPER I.).

TUESDAY, MARCH 31ST :— MORNING, 9 A.M.

Examiners,..... ... . { HENRY T. BOVEY, M.A., A.M.I.C.E.
JOHN KENNEDY, M.I.C.E.

1. How would you determine whether the stone from a certain quarry is suitable for structural purposes?

2. Discuss the various considerations which may affect the weathering capability of a stone.

3. What reasons would you urge for the cutting of blocks to the required forms at the quarry?

4. How would you test the suitability of a stone for a town where the atmosphere is heavily laden with smoke and with the fumes from chemical and other factories?

5. Name the constituents of pure granite. Upon which of these constituents does its colour depend? How is granite affected by the presence of iron? How is granite to be distinguished from gneiss?

6. Describe clay-slate, and state some of the uses to which it may be applied. How is a slate quarry worked?

7. Give a classification of limestones, with a brief statement of the properties of each class.

8. Name the constituents of clay, state how they severally affect the clay, and give a classification of the clays used in the manufacture of bricks.

9. Describe the kiln-burning process, and give reasons why the kiln to be preferred to the clamp system.

10. Give a sketch of Hoffman's kiln, and point out its advantages and disadvantages.

11. Describe, with *sketches*, the various bonds in brick-work, and also the different kinds of masonry employed in engineering structures.

12. Describe the specimens on the table.

SECOND, THIRD AND FOURTH YEARS.

MATERIALS (PAPER II.).

TUESDAY, MARCH 31ST :—AFTERNOON, 3 P.M,

Examiners,..... { HENRY T. BOVEY, M.A., A.M. I.C.E.
JOHN KENNEDY, M.I.C.E.

1. Pure lime—how is it made? What are its properties? To what uses may it be applied? How is excessive shrinkage to be prevented? How is it affected by the presence of iron?

2. What is hydraulic lime? How is it produced? Specify those constituents which conduce to hydraulicity and those which do not.

3. Give Vicat's classification of hydraulic limes, and describe the properties of any one of the classes.

4. Write out a specification for lime-mortar.

5. Roman cement—how is it made? What are its properties? To what uses may it be applied?

6. Carefully describe the properties and action of the hydraulic mortar made by adding soluble silica to a paste of common lime.

7. What is the compound to which the cements derived from the argillaceous limestones principally owe their property of hardening under water?

8. How is the hydraulicity of a mortar affected by being re-pulverized and pasted after it has once set? How is it affected by a disturbance of the molecular condition after crystallization has commenced? How may these defects be remedied?

9. Describe the wet process of manufacturing Portland cement, and state the quality of the cement derived from the differently coloured clinkers.

10. Write out a specification of Portland cement concrete.

11. Describe the specimens on the table.

SECOND, THIRD AND FOURTH YEARS.

ESSAYS. — (CIVIL AND MECHANICAL ENG.).

WEDNESDAY, APRIL 1ST: — MORNING, 9 A.M.

Examiner,..... ..... HENRY T. BOVEY, M.A., A.M.I.C.E.

(Each candidate is to write an essay on one only of the following subjects):

FOURTH YEAR.

1. Turbines.
2. Suspension Bridges.
3. Carnot's Heat Engine.

THIRD YEAR.

1. The gauging of streams and rivers.
2. Pillars.
3. Brakes.

SECOND YEAR

1. The gauging of streams and rivers.

THIRD YEAR AND B. A. Sc.

THEORY OF STRUCTURES (PAPER I.).

WEDNESDAY, APRIL 8TH:—MORNING, 9 A.M.

Examiner,.....HENRY T. BOVEY, M.A., A.M.I.C.E.

1. At a point within a strained mass the stresses upon certain two planes are r and s lbs. per sq.-in., the obliquities being α and β respectively Determine the principal stresses at the point.

If the stresses are a tension of 100-lbs. per sq.-in. with an obliquity of 30°, and a compression of 50-lbs. per sq. in. with an obliquity of 45°, find—(*a*) the angle between the planes, (*b*) the plane upon which the stress is wholly a shear and the amount of the shear, (*c*) the position of the planes of principal stress.

2. Employ the results of the previous question to determine the maximum direct stress and maximum shear in a shaft subjected at the same time to a bending load and a pair of twisting couples.

Power is taken from a shaft 12-ft. between bearings by means of a 30-ins. pulley keyed on the shaft at a point dividing the shaft into segments of 4 ft. and 8 ft. The tangential force at the circumference of the pulley is 4,000-lbs. Find the max. direct stress and the maximum shear induced in the shaft, and hence determine its diameter.

3. A building is to be erected on soft ground, and friction is alone to be relied upon for resistance to displacement by the pressure of the building. Determine the limiting ratio of the weight of the earth displaced to the weight of the building, (1) when the latter is uniformly distributed over its base, (2) when the weight produces a uniformly varying pressure on the base.

Illustrate by application to the case of a lock wall, 12 ft. wide at the base, 4 ft wide at the top, plumb at the back, weighing 130 lbs. per cubic ft. rising 30-ft. above the ground surface, and founded in clay weighing 130-lbs. per cubic ft., and having an angle of repose = 27° (neglect the effect of the backing).

4. State the two general conditions of the stability of blocks of masonry and brickwork, and express the conditions analytically.

A wall 12 ft. high, 2 ft. wide at the top, 3 ft. wide at the bottom and plumb at the rear is constructed of masonry weighing 120-lbs. per cubic ft. The overturning force on the wall is a horizontal force P acting at a point 4 ft from the bottom. Find P so that the deviation of the centre of pressure in the base may not exceed $\frac{1}{6}$ ft. The centre of pressure being thus fixed, show that $\frac{2}{9}$ths. of the section may be removed without altering its stability, and find the increase in the inclination of the resultant pressure on the base to the vertical consequent on such removal.

5. Give instances of any failures of dock walls with which you may be acquainted, and describe how a wall may be expected to fail where water finds its way into the foundation. Mention some of the deductions which may be made from a consideration of such failures.

6. Discuss the relative merits of walls with and without counterforts.

7. A reservoir wall of masonry weighing 120-lbs. per cubic ft. is triangular in section and has a vertical face which retains water level with the top of the wall. The angle at the vertex of the triangle is $\tan^{-1}\frac{11}{5}$. How high can such a wall be built consistent with the condition that the stress a the base is nowhere to exceed 12,000-lbs. per sq. ft.?

Plot the curve of centres of resistance, and shew the change which takes place when water rises on the sloping face of the wall as well as on the vertical face.

8. In the last example, assuming that the side which retains the water remains vertical, find the increased batter to give to the other face, in order that the height of the wall may be doubled.

THIRD YEAR AND B. A. Sc.

THEORY OF STRUCTURES (PAPER II.).

THURSDAY, APRIL 9TH:—MORNING, 9 A.M.

Examiner,..... HENRY T. BOVEY, M.A., A.M.I.C.E.

1. Explain the following expressions:—force, foot-pound, energy, resilience, co-efficient of elasticity, limit of elasticity, bending moment, shearing force.

2. Enunciate Wohler's Law and deduce Launhardt's formula for the sectional area of a member subjected to stresses of *the same kind* varying between a maximum and a minimum limit.

Apply to the case of the diagonal of a bowstring truss in which the stresses are tensile and vary from 12 to 4 tons.

(u = 30,000-lbs. per sq.-in., t = 50,000-lbs. per sq.-in., factor of safety = 3.)

3. A square steel bar 10 feet long is firmly fixed at one end; a *sudden* pull of 40,000-lbs. is exerted at the other end; find the sectional area of the bar consistent with the condition that the resulting strain is not to exceed the proof, viz., $\frac{1}{750}$; the co-efficient of elasticity is 30,000,000-lbs. Also, find the resilience of the bar.

4. A uniformly loaded beam 90-feet in length, rests upon two supports, and is jointed at the points of trisection; each joint will bear a bending moment of 50,000-ft. lbs.; find the load.

What single weight at a point of trisection will produce the same effect at that point as the uniform load?

5. $$M = \frac{E}{R} \cdot I = \frac{f}{c} \cdot I.$$

On what assumptions do these relations depend? A wrought-iron beam having an *I*-formed section and resting on two supports 20 feet apart is uniformly loaded with 4,000-lbs., and is deflected $\frac{1}{10}$ —inch thereby; the effective depth of the section is 8-inches, the co-efficient of elasticity is 30,000,000-lbs.; find the area of the section, the area of the web being equal to the joint area of the flanges.

6. A beam is in equilibrium under the action of external forces; show that the intensity of shear stress at a given point of any transverse section is $\frac{A\bar{x}}{z} \cdot \frac{S}{I}$, A being the area of the portion of the section above a horizontal line through the point, $\overline{x}$ the distance of the *C.* of *G.* of this area from the neutral axis, z the width of the section at the point, S the total shear at the section, and I the moment of inertia of the section with respect to the neutral axis.

If 5 tons per sq.-in. is the working shear strength, determine the width of a rectangular section which will bear the same total shearing force as the section in the preceding question, the depth of the section being the same and the flanges 4-ins. wide, also find the force.

7. Design a timber cantilever of approximately uniform strength from the following data:—

Length = 12-ft., square section, load at free end = 2-tons, working strength of the timber = 1-ton per sq.-in.

Also determine what the dimensions at the fixed and free ends should be, so that the cantilever might carry an additional uniformly distributed load of 3-tons.

8. Enunciate and prove Gordon's formula.

Point out the advantage of Rankine's modification of this formula.

A cylindrical cast-iron pillar, 8-ins. in diar. is so placed that its axis is inclined at 10° to the vertical; the weight upon the upper end of the pillar is 4,000-lbs., find the proper thickness of the metal.

(Ultimate rushing strength = 80,000-lbs. per sq.-in., $a_1 = \frac{1}{4000}$, factor of safety = 3).

9. Three cranks 12-ins. in length, with the crank pins at the angles of an equilateral triangle, are keyed on a wrought-iron shaft; assuming that the effort upon each pin is horizontal and equal to 5,000-lbs., find the diameter of the shaft so that the maximum stress in it may be 9,000-lbs.

Also if $m = 9{,}000{,}000$-lbs., find the torsion per lineal foot of the shaft, when one of the cranks passes a dead point.

10. Given the diameters of the wire and the coils of a cylindrical spiral spring, show that its elongation under a given weight is proportional to the length of wire coiled up to form the spring.

Such a spring is formed of steel wire; the mean diameter of the coils is 1-inch, the working stress of the wire is 50,000-lbs. per sq.-inch; the elongation under a weight of $19\frac{9}{14}$-lbs. is 2-ins.; the co-efficient of transverse elasticity is 8,500,000-lbs.; find the diameter of the wire and the number of coils.

11. A cylindrical boiler with hemispherical ends is made of a given thickness of metal, and is subjected to an internal pressure; shew that the ends are *twice* as strong as the cylindrical part.

Find the relation between the strengths when the boiler is also subjected to an external pressure.

THIRD YEAR AND B. A. Sc.

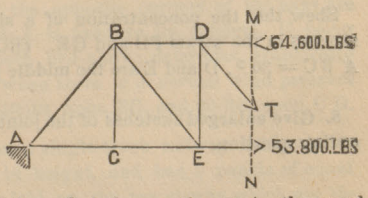
THEORY OF STRUCTURES (PAPER III.).

THURSDAY, APRIL 9TH :—AFTERNOON, 3 P.M.

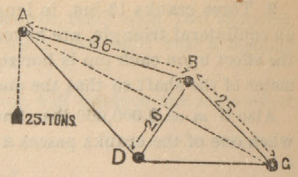
Examiner,..... HENRY T. BOVEY, M.A., A.M.I.C.E.

1. In the accompanying rail section, sketch the line bounding the effective area, and explain how you would determine the strength of the section.

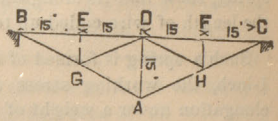
2. The figure is a portion of a bridge-truss cut off by the plane MN and supported upon the abutment at A; AC = CE = $14\frac{7}{24}$ ft.; the depth B C = D E = $17\frac{1}{4}$ ft.; in the third panel the compression in the upper chord is 64,600 lbs., the tension in the lower chord is 53,800 lbs.; find the reaction at A, the equal weights supported at C and D, and the diagonal stress T.



3. The crane represented by the accompanying figure lifts 25 tons; the jib AD is inclined at 45° to the vertical; AB =36 ft., B C = 25 ft., B D = 20 ft., D C = 27 ft.; the chain passes along C A and hangs in four falls; find the stresses in all the members.

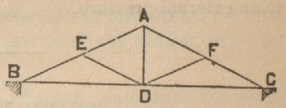


4. The platforms of a bridge for a clear span of 60-ft. is carried by two trusses 15-ft. deep of the type shewn by the accompanying diagram; the load upon the bridge is 50 lbs. per sq. ft. ofplatform which is 12-ft. wide; the compression members are of timber, the ties of wrought-iron determine the dimensions of the different members, the working stresses per sq. in. being 400 lbs. for the timber, and 10,000 lbs. for the wrought-iron.



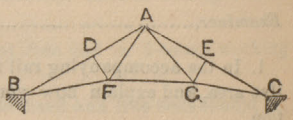
5. If a single weight of 2000 lbs. pass over a truss similar to that shewn in the preceding question, find the stresses in the several members, when the load is, (1) at E, (2) at D.

6. The rafters A B, A C are supported at the centres by the struts D E, D F; the centre of the tie-beam is supported by the tie A D; BC = 30 ft., A D = 7½ ft.; the load upon A B is 4000 lbs., that upon A C 1600 lbs.; find the stresses in all the members.



By an accident the strut DE was torn away; how were the stresses in the other members effected?

7. Determine the stresses in the members of the accompanying roof-truss due to a normal pressure upon the rafter A B of 320 lbs. per lineal ft.



Shew that the concentration of a single load at A does not alter the stresses in the struts FD and GE. (BC = 50 ft., FG = 17½ ft., the angle A BC = 30°, D and E are the middle points of the rafters.)

8. Give enlarged sketches of the joints at A, D, B and F, in roof of preceding question.

EXAMINATION FOR B. A. Sc.

THEORY OF STRUCTURES (*Paper IV.*).

MONDAY, APRIL 13TH:—MORNING, 9 A.M.

Examiners, ... { HENRY T. BOVEY, M.A., A.M.I.C.E.
P. A. PETERSON, M.I.C.E.

1. A Warren girder for a single-track railway bridge consists of 8 equilateral triangles, and is to be designed for a span of 96-ft.

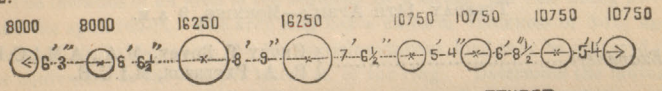
Taking the loads on the bottom chord in lbs. per lineal ft. to be 2,250 due to engine, 1,400 due to train, and 450 due to dead weight, determine:

(*a*) The sectional areas of the chords in the several panels.

(*b*) The maximum stresses of *both kinds* in the 3rd, 4th and 5th diagonals from one end, and give a sectional sketch of the 3rd diagonal.

(*c*) The number of rivets required for the connection of these diagonals to the chords and the number to prevent the tendency to any slip along the chords at the points of connection.

2.



With the load as above show the position of the driving wheels which will throw the greatest stress on a single loop ($1\frac{3}{4}$-ins. round) in a Phœnix bridge with 17 ft. 4-ins. panels, and find the stress per sq.-in.

3. With the same load distribution design a truss for a clear span of 34-ft.

4. The top beam of a roof for a clear span of 96-ft. consists of six bars AB, BC, CD, DE, EF, FG, equal in length, and so placed that A, B, C, D, E, F and G are on circle of 80-ft. radius; the lower boom also consists of six equal rods AH, HK, KL, LM, MN, NG, the points H, K, L, M and N being on a circle of 148-ft. radius; B is connected with H, C with K, D with L, E with M, and F with N; the opposite corners of the bays are connected by cross-braces; the end A is fixed to its support, G being allowed to slide freely over a smooth bed-plate; determine graphically the stresses in the various members when there is a normal wind pressure per lineal-ft. of 460-lbs. upon AB, 340-lbs. upon BC, and 60-lbs. upon C.D.

5. Each of the two Pratt trusses for a single-track railway bridge is 55-ft. c to c. of end pins, 11-ft. 6-ins. in height, and has 5 panels of equal length. The timber floor-beams are laid on the top chords which are 15-ins. I-beams, weigh 200-lbs. per lineal yd. and are 10-ft. c to c.

(*a*) Give the scantling of the floor-beams for the engine-load in Question 2 (*safe stress* = 1000-*lbs. per sq.-in.*)

(*b*) For the same load determine the maximum chord stresses in the centre panel due to bending and the maximum stresses transmitted by the diagonals.

(*c*) Assuming the ultimate compressive strength of wrought-iron in lengths of 1 diar. to be 36,000-lbs. per sq-in., is the 15-ins. I-beam sufficiently strong? How would you stiffen this beam, if necessary? How would you support the floor-beams?

6. Explain why counterbraces are not required to be carried to the end of the span in long span bridges.

EXAMINATION FOR B. A. Sc.

THEORY OF STRUCTURES (*Paper V.*).

TUESDAY, 14TH APRIL:—MORNING, 9 A.M.

Examiners,..... { HENRY T. BOVEY, M.A., A.M.I.C.E.
P. A. PETERSON, M.I.C.E.

1. Give a brief description of the various kinds of cables for suspension bridges.

2. A railway bridge weighing 1600-lbs. per lineal ft., and consisting of several spans each of 250-ft. has to be built over a rapid where false works cannot be employed, and where the distance from the tops of the piers to a safe elevation above the water is only 10-ft. It is proposed to erect the several trusses on steel wire cables of uniform section. Determine for a single span, (*a*) the greatest and least tensions in a cable, (*b*) its length, (*c*) its sectional area (*the safe stress of the steel being* 33,960-*lbs. per sq. in.*), (*d*) its weight.

3. Shew by a sketch how you would carry out the above work, and examine the stability of a pier. *Total height of pier* = 15-ft., *weight of masonry per cubic ft.* = 150-lbs., *compressive strength of masonry per sq. ft.* =2,000-lbs.

4. Explain how the backstays of a suspension bridge are secured to the anchorages, and state the precautions necessary to preserve the chains from rust.

In Question 2, assuming that the first pier is 150 ft. from a safe anchorage on shore, find the proper weight of the anchorage, which is to be built of the same masonry as the piers.

5. The platform of a suspension bridge of the same span and dip as that in Question 2 and with stiffening truss is suspended from the cables by 118 vertical rods (59 on each side); the permanent load is 1-ton per horizontal lineal ft. Find—(*a*) the pull upon a suspender when a live load of ¼-ton per lineal ft. covers half the bridge, (*b*) the proper sectional areas of the web and chord to resist the maximum shears and maximum bending moments as the same live load passes over the bridge. State all the assumptions you make in your calculations.

6. Explain the principle of the arched rib. Give reasons shewing the advisability of supporting the ends of such a rib on pins or on cylindrical bearings.

A steel parabolic arched rib of 50-ft. span and 10-ft. rise is hinged at both ends, a single weight of 12-tons is concentrated at the centre; determine the horizontal thrust on the rib when the temperature varies 60° F. from the mean, and also find the maximum flange stresses due to bending, the rib being 12-ins. deep throughout.

7. State the conditions of equilibrium of an arch voussoir.

The intrados of an arch is the segment of a circle, the rise being 20-ft. and the span 100-ft. The arch ring has a uniform thickness of 3-ft., and weighs 140-lbs. per cubic ft.; the superincumbent load may be assumed to be equivalent to 480-lbs. per lineal ft. of the ring. Determine the mutual pressures at the key and springing, their points of application being respectively 2-ft. and 1½-ft. from the intrados.

Also find the curve of the centres of pressure.

ADVANCED COURSE.

THIRD AND FOURTH YEARS.

THEORY OF STRUCTURES (*Paper I.*).

MONDAY, APRIL 20TH : — MORNING, 9 A. M.

Examiner,.....HENRY T. BOVEY, M.A., A.M.I.C.E.

1. A beam of given span and constant section is absolutely fixed at both ends and loaded uniformly; find its deflection at the centre.

An angle-iron 3-in. × 3-in. × ½-in., with both ends fixed and a clear span of 20-ft., carries a uniformly distributed load of 1500-lbs., which causes it to deflect 2-ins.; Find *E*.

What single load at the centre will produce the same deflection?

2. Shew that the work done in bending a given length of beam is $\frac{1}{2 \cdot E \cdot I} \int M^2 \, dx$, the integration extending over the length under consideration.

Determine the work done in bending the angle-iron in the preceding question, (1) under the uniformly distributed load, (2) under the single load at the centre.

3. A steel plate beam of uniform section and 30-ft. clear span has both ends fixed, and is freely hinged at the points of trisection; determine the neutral axis, (*a*) for a uniformly distributed load of 60,000-lbs., (*b*) for a single load of 10,000-lbs. concentrated first $7\frac{1}{2}$-ft., and second 15-ft. from a support.

Draw shearing and bending movement diagrams in each case.

(E = 30,000,000 lbs., I = 216).

4. Design a wooden cantilever 12-ft. long, of circular section and uniform strength, to carry a load of 2-tons at the free end, the working strength of the timber being 1-ton per sq. in.

Also find the deflection at the free end.

5. M_1, M_2, M_3 are the bending moments over three points of support a_1, a_2, a_3 in a continuous girder; $a_1 a_2 = l_1$, $a_2 a_3 = l_2$; the loads upon $a_1 a_2$ are a number of weights $P_1, P_2, P_3 \ldots\ldots$ distant p_1, p_2, p_3 .... from a_1, and upon $a_2 a_3$ a number of weights $Q_1 Q_2 Q_3, \ldots\ldots$ distant $q_1, q_2, q_3 \ldots\ldots$ from a_3; show that

$$M_1 l_2 - 2 M_2 (l_1 + l_2) + M_3 \cdot l_2 = \Sigma \frac{P \cdot p}{l_1} (l_1^2 - p^2) + \Sigma \frac{Q \cdot q}{l_2} (l_2^2 - q^2).$$

An eight-wheeled American locomotive travels over a continuous girder of two spans each equal to 100-ft.; the truck wheels are 6-ft. c. to c. the load upon each pair being 8,000-lbs.; the driving wheels are 8-ft. 6-ins. c. to c., the load upon each pair being 16,000-lbs.; the distance c. to c. between the front driving wheels and the nearest truck wheels is also 8-ft. 6-ins.; determine the position of the locomotive which will give a max. bending moment over the centre support, and find its value.

6. A strut is hinged at both ends; find the least thrust which will cause the strut to bend laterally, and show that if the strut is made to pass through N points dividing its length into $N + 1$ equal parts, the strength of the strut will be increased $(N + 1)^2$ times.

A steel tube 336-ft-long, 8-ft. diar., and of $\frac{1}{2}$-in. metal, is hinged at both ends and stayed at intervals of $16\frac{4}{5}$-ft.; find the safe thrust, 10 being a factor of safety, and E = 30,000,000 lbs.

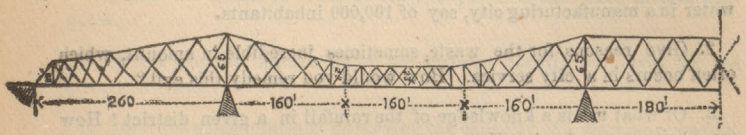
EXAMINATION FOR B. A. Sc.

THEORY OF STRUCTURES (*Paper II.*)

MONDAY, APRIL 20TH :—AFTERNOON, 3 P.M.

Examiner,.....HENRY T. BOVEY, M.A., A.M.I.C.E.

1.



The diagram represents *one-half* of a cantilever bridge consisting of five spans. The trusses are continuous, the pier ends being absolutely fixed, and the abutment ends allowed a free horizontal motion on smooth bed-plates. Find the re-actions and bending moments at the points of support, and show graphically or otherwise how to determine the stresses in the chord and diagonal members.

(Engine load = 5000-lbs. per lineal ft., train-load = 3000-lbs. per lineal ft., bridge-load = 2250-lbs. per lineal ft.)

2. The stiffening truss of a suspension bridge is absolutely fixed at one end and hinged at the centre. Draw to *scale* diagrams of shearing force and bending-moment, when a load of uniform intensity crosses the bridge.

3. Deduce the general equations, giving the bending-moment and shearing force at any point in the axis of an arched rib.

Apply to the case of a parabolic arched rib, fixed at both ends, and carrying in addition to a uniformly distributed dead load a single weight W at a horizontal distance k from the centre.

SECOND, THIRD, AND FOURTH YEARS.

WATER-SUPPLY (*Paper I.*).

SATURDAY, APRIL 11TH:—MORNING, 9 A.M.

Examiners,..... { HENRY T. BOVEY, M.A., A.M.I.C.E.
JOHN KENNEDY, M.I.C.E.

1. Give an approximate detailed statement of the daily consumption of water in a manufacturing city, say of 100,000 inhabitants.

2. Give reasons for the waste, sometimes incredible in amount, which often occurs in a city service. How would you remedy this evil?

3. Of what use is a knowledge of the rainfall in a given district? How would you determine it? How is the amount affected by local and physical conditions? What special characteristics should be noted?

4. Carefully describe the best rain-gauge with which you are acquainted.

5. During the drought in Manchester in the year 1868, the rainfall at Rhodes Wood was .58ins. from June 1st to 29th (28 days), .58ins. from June 29th to July 27th (28 days), .10ins. from July 27th to Aug. 3rd (7 days); at Woodhead the rainfalls for the corresponding periods were, .42ins; .56ins, and .11ins.; find the mean daily rainfall per 1,000 acres between June 1st and August 3rd.

6. Explain the effect of evaporation and absorption upon the rainfall. What is meant by the *dry weather flow?*

7. Briefly describe the geological conditions favourable to the production of springs.

8. Give the characteristics of shallow and deep wells. What knowledge is required for an estimate of the yield of a well? How may this yield be increased?

9. How would you determine the suitability or non-suitability of a river as a source of water-supply?

10. What are the three prime requisites in a lake regarded as a source of water-supply?

11. Give reasons why well-waters should be used with the greatest care, and why they cannot be reckoned in any estimate for a permanent supply.

12. A city of 60,000 inhabitants, with a probable increase in 10 years of 20 per cent., is to be supplied with water; what size of main will be required, the velocity of flow being 4 ft. per second?

SECOND, THIRD AND FOURTH YEARS.

WATER-SUPPLY (*Paper II.*).

SATURDAY, APRIL 11TH:—AFTERNOON, 3 P.M.

Examiners, ... { HENRY T. BOVEY, M.A., A.M.I.C.E. / JOHN KENNEDY, M.I.C.E.

1. Name the different kinds of reservoir, and define their several purposes.

2. Give a general description of the systems usually employed for the elivery of water.

3. State the considerations governing the capacity of a storage reservoir.

Ex.—Determine the capacity of a storage reservoir for a city of 100,000 inhabitants, making due allowance for evaporation, etc.

4. Enumerate the circumstances which determine the capacity and use of a service reservoir.

5. Give a sectional sketch of an embankment for a reservoir 40-ft. deep, and describe its construction from base to summit, carefully specifying the materials used.

6. Explain how the exposure of a spring might prove dangerous to an embankment. What would you do in such a case?

7. Describe the construction of an ordinary filter bed, giving reasons for the method pursued. Explain how the cleaning of the bed is effected, and how it is recharged. Upon what does the efficiency of the bed chiefly depend?

8. Describe, with carefully drawn sketches:

(*a*). Some system of conveying the water from the reservoir through the embankment, shewing the necessary arrangements for regulating the discharge, *b*). A water-meter, (*c*). A fire hydrant.

9. The gauging of a river 100 ft. wide in a time of drought gave the following results:—

The width of the river being divided into 10 equal parts, their mean depths in feet numbering in order from one side were: 2, 4, 5, 7.4, 8, 7, 6, 4, 3.2 and 1, the corresponding mean velocities in ft. per sec. being 1.5, 2, 2.2, 2.4, 3, 2.9, 2.6, 2.4, 2 and 1: What was the mean velocity of flow for the whole section, and what the supply?

EXAMINATION FOR B. A. Sc.

HYDRAULICS (*Paper I.*).

THURSDAY, APRIL 16TH:—MORNING, 9 A.M.

Examiner,.....HENRY T. BOVEY, M.A., A.M.I.C.E.

(1). How is the coefficient of contraction affected by forming a border round part of the edge of an orifice?

Water issues from a square orifice, bordered on one edge, 8 ft. below the surface; determine the energy of the issuing jet, a side of the orifice being 1 in.

(2). The water in a regulating chamber is 8-ft. below the level of the water in the canal, and 8-ft. above the centre of the discharging sluice. Determine the rise in the canal which will increase the discharge by 10 per cent.

The horizontal sectional area of the chamber is constant and equal to 400 sq. ft.; in what time will the water in the chamber rise to the level of that in the canal, if the discharging sluice is closed; the sluice between the canal and chamber being 3 sq. ft. in area?

(3). Determine an expression for the velocity of flow from a cylindrical mouth-piece.

A vessel discharges through a cylindrical mouth-piece 15 ft. below the surface into a second vessel containing steam at a pressure of 20 lbs per sq. in. Assuming the coefficient of contraction to be .6, determine the coefficient of velocity.

(4). A large rectangular jet issues from an orifice in a plane vertical surface, deduce an expression for the discharge, taking into account the velocity of approach. Hence also determine the discharge over a rectangular weir, and explain how it is affected by end contractions.

Water in a canal of rectangular section and 10-ft. wide flows at the rate of 2-ft. per sec. In order to gauge the flow the water is dammed back by a boarding in which there is cut a notch 8-ft. wide and 2-ft. deep. The water rises $1\frac{1}{2}$ ft. above the crest of the notch. Find the discharge and the depth of the canal.

(5). A pipe runs full bore, obtain an expression giving the head absorbed by friction per lineal unit of length, clearly stating all the assumptions you make. Also explain how the flow is affected by a variation in the pipe's inclination.

(6). The water in a canal of rectangular section 2 ft. wide, and having a slope of 1 in 1000, is to be conveyed across a valley from a point A to a point B by means of an inverted pipe syphon 12 ins. in diar. The chainage from A to a point C is 980 ft., and C B is approximately straight and inclined to the horizon at an angle of 80°. The difference of level between A and C is 40 ft. Find the true length of the syphon and the difference of level between its two ends.

(7). Describe the various losses of head which usually occur in pipes.

The water in a reservoir is 30 ft. deep and discharges at the bottom through a horizontal piping of four sections AB, BC, CD, DE., having a common axis and each 100 ft. in length, the diars being 4, 6, 8 and 4 ins respectively. At E the water issues from an orifice of 6 sq ins. sectional area in a diaphragm across the mouth of the pipe. Determine, (1) The losses of head due to abrupt changes of diar, (2). The losses of head due to friction, (3) The energy of the issuing jet. ($c_c = \frac{3}{5}$).

Draw to scale the line of virtual slope.

(8). A city is supplied with water by means of an aqueduct of rectangular section, 24 ft. wide, running 4 ft. deep, and sloping 1 in 2400. *One-fourth* of the supply is pumped into a reservoir through a pipe 3000 ft. long, rising 25 ft. in the first 1500 ft., and 75 ft. in the second 1500 ft. The pumping is effected by an engine burning $2\frac{1}{2}$ lbs of coal per H. P. per hour, and working constantly through the year. A percentage is to be allowed for repairs and maintenance; the cost of the coal per ton of 2000 lbs. is $4; the prime cost of the engine is $100 per H. P.; the efficiency of the engine is $\frac{3}{5}$; the coefficient of pipe friction is .0064, the cost of the piping is $30 per ton. Determine the most economical diar of pipe, and the H.P. of the engine.

(9). The section of a canal is a regular trapezoid; its slope is 1 in 500; its width at the bottom is 8 ft.; the sides are inclined at 30° to the vertical. On one occasion when the water was 4 ft. deep, a wind was blowing up the canal causing an air resistance for each unit of free surface equal to $\frac{1}{5}$ of that for like units at the bottom and sides, where the coefficient of friction may be taken to be .08.

Determine the discharge. How will the discharge be effected when the canal is frozen over?

EXAMINATION FOR B. A. Sc.

HYDRAULICS (*Paper II.*).

MONDAY, APRIL 16TH:—AFTERNOON, 3 P.M.

Examiner,.....HENRY T. BOVEY, M.A., A.M.I.C.E.

1. A jet issues from the vertical side of a vessel through a thin-lipped orifice of 1 sq. in. sectional area under a pressure equivalent to a head of 900-ft.; the jet impinges upon a curved vane, and drives it in the direction of the axis of the jet; the water enters the vane *without shock* and is turned through an angle of 60° before it leaves the vane. Neglecting friction, determine the speed of the vane which will give a maximum effect; also find the corresponding impulse on the vane, work done on the vane, the absolute velocity with which the water leaves the vane, and the reaction on the vessel.

2. An overshot wheel makes $\frac{15}{\pi}$ revolutions per minute; its mean diameter is 32 feet; the water enters the buckets with a velocity of 16 feet per second at a point 12° 30′ from the summit of the wheel. At the point of entrance the path of the inflowing water makes an angle of 30° with the horizontal; shew that the path is horizontal vertically above the centre. The sluice-board is placed at a point whose horizontal distance from the centre is one-half that of the point of entrance; find its position relatively to the centre and its inclination to the horizon. (Sin. 12° 30′ = ·2165).

3. The water enters the buckets of the wheel in Question 2 without shock, find the elbow-angle.

Also, if the buckets begin to spill at 150° from the summit, find where the bucket is empty, and the number of buckets. (*Depth of crown* = 12-ins., *thickness of bucket* = 1½ ins.)

4. Describe the construction of a breast-wheel, and shew how to determine its mechanical effect.

5. If the lip of the vane of a parallel-flow is vertical, and if it is assumed that $u_1 = u_2 = V_2$, shew that the efficiency is cos. β, β being the vane-angle at the outlet surface.

The mean diameter is 30-in., the effectual head is 16-ft., the quantity of water used per sec. is 1½ cubic feet, the inclination of the guide at the point of entrance is 30°; find the width of the annular opening and number of revolutions per sec.

If the vanes are 1-in thick and 12 in number, find the true value of β.

6. Explain what is meant by the velocity of flow and the whirling velocity in a turbine.

In the preceding question, if, instead of making $u_2 = V_2$, it be assumed that the whirling velocity at the outlet surface is zero, show that the efficiency becomes $\frac{2 \text{ Cos.}^2 \beta}{1 + \text{Cos.}^2 \beta}$

B. A. Sc., ADVANCED COURSE.

HYDRAULICS.

FRIDAY, APRIL 24TH :—MORNING, 9 A.M.

Examiner,.....HENRY T. BOVEY, M.A., A.M.I.C.E.

1. The whole of the water flowing through a pipe is consumed in *way-service*, show that the loss of head due to friction at any point is the ordinate at that point of a cubical parabola.

2. The angle of convergence of a conical reducer is $2a$; Q is the flow per second ; v_1 and v_2 are the velocities of flow at the ends of the reducer ; show that the work done per second in overcoming the frictional resistance $= \frac{Q}{102.4} \cdot \frac{v_1^2 - v_2^2}{\tan a}$.

($g = 32$, and $f = \cdot 01$).

3. Three reservoirs at different levels are connected by a branched pipe ; the discharges (viz., Q_1, Q_2, Q_3) and positions (viz., h_1, h_2, h_3) of the pipes are known ; required the velocities of flow in the pipes and the diameters.

Ex. $Q_1 = 4500$ gallons per minute $h_1 = 400$ ft., $l_1 = 6000$ ft.
$Q_2 = 3000$ " " $h_2 = 250$ ft., $l_2 = 3000$ ft.
$Q_3 = 1500$ " " $h_3 = 150$ ft., $l_3 = 2000$ ft.

4. Assuming that the motion of the water in an open stream of varying cross-section and slope is steady, and that the variation of cross-section and velocity is gradual, show that the fall of surface level in a length l of the stream is,

$$z = a \frac{u_2^2 - u_1^2}{2.g} + \int_o^l \frac{f}{m} \cdot \frac{u^2}{2.g} ds.$$

Hence deduce the fundamental differential equation of steady varied motion, and show that the tangent of the inclination of the water surface to the bed at a point where the depth of the stream is $= \frac{i - \frac{f}{h} \cdot \frac{u^2}{2.g}}{1 - a \cdot \frac{u^2}{g.h}}$

Shew that for a standing wave, $i > \frac{f}{2}$.

5. The bye-wash from a square reservoir is a channel of triangular section, the angle being 90° ; the slope of the channel is 1 in 1000. On one occasion the depth of water in the channel after a heavy flood was 2-ft.

Supposing all other inflows and outflows to be stopped, how long would it take for the water in the reservoir to sink to the level of the bottom of the channel? At that level the area of the reservoir is 10,000 sq.-ft.; the walls have a batter of $1\frac{1}{2}$ in 12 ($f = \cdot 0064$).

EXAMINATION FOR B. A. Sc.

HEAT AND HEAT ENGINES (*Paper I.*).

SATURDAY, APRIL 18TH:—MORNING, 9 A.M.

Examiner, ...HENRY T. BOVEY, M.A., A.M.I.C.E.

1. Define temperature.

Upon what experimental principle does the employment of thermometers depend?

2. Shew that heat is a quantity which can be measured in terms of a unit of its own kind, and define this unit.

In a condensing-engine the temperature of the injection water is 16°C; the steam enters the condenser at a temperature of 180°C, the water is pumped out of the condenser at a temperature of 44°C: find in foot-pounds the energy lost by each pound of steam entering the condenser, and also find the corresponding weight of injection water to be supplied.

3. Write down the equations, defining the curves of steam, (1) according to the law of saturated steam, (2) according to the adiabatic law, (3) according to the isothermal law.

Determine the final pressure and the work done according to each law, when 1 cubic foot of saturated steam at an initial pressure of 60-lbs. per sq. in. expands to 4 times its volume.

4. Enunciate the two laws of thermodynamics, and interpret them.

5. What is meant by a reversible cycle? Shew that reversibility is the sole test of the perfection of an engine. Wherein is a condensing engine not reversible?

Compare the efficiency of two engines A and B; A is a condensing engine with boiler-pressure at 35 lbs. per sq.-in., cut-off at *one-fifth* of the stroke, back-pressure at 2-lbs. per sq.-in., and it is assumed that the water is returned to the boiler at the temperature of the condenser; B is a reversible engine between the same limits of temperature. C — feed — water at 60° F.

$$\log_e 5 = 1.6094.$$

6. Explain the functions of regenerator in an air-engine. In an Ericsson the air is drawn directly from and discharged directly into the atmosphere;

it receives heat from the furnace at 400° F and is compressed at 20° F ; the rate of expansion at constant temperature is $\frac{2}{3}$; the regenerator wastes *one-tenth* of the heat stored at constant pressure ; determine the efficiency and the mean effective pressure.

7. Point out the advantages resulting from the employment of high pressures and low rates of expansion.

Show by a diagram the work lost by the condensing engine in Question 5, (1) if the boiler-pressure is reduced to 20-lbs. per sq.-in., with corresponding cut-off, (2) if the condenser is removed so that the steam is discharged directly into the atmosphere.

8. The rate of expansion is r, the clearance c; find the positions of the cut-off both for admission and exhaust.

Two cylinders of the same length with the same initial pressure and rate of expansion—the one with clearance, the other without—have to do the same work ; compare the relative diameters.

9. A compound engine has two cylinders, the pistons having a common rod and areas in the ratio of 2 to 1 ; the stroke is 60-ins. ; the speed of the pistons 400 feet per minute; the initial pressure 60-lbs. per sq.-in. ; the rate of expansion in the *H. P.*-cylinder *one-fifth* ; the pressure in the condenser 2-lbs. per sq.-in., the diar. of the *L. P.*-cylinder 48-ins., find the horse-power and the average pressures in the two cylinders.

10. Describe the various causes which reduce the available heat of combustion.

An engine burns anthracite coal containing 91 per cent. *C*, 3 per cent *H*, 3 per cent. *O* and 3 per cent. air. Find the heat of combustion. Double the necessary quantity of air is supplied, and the gases escape at 500° F ; what proportion of the total heat of combustion is sent up the chimney ?

EXAMINATION FOR B. A. Sc.

HEAT AND HEAT-ENGINES (*Paper II.*).

SATURDAY, APRIL 18 :—AFTERNOON, 3 P.M.

Examiner,.....HENRY T. BOVEY, M.A., A.M.I.C.E.

1. Give a sectional sketch, shewing the principal dimensions of the cylinder and slide-valve of a 25 H.P. horizontal double-acting condensing engine.

(*Initial pressure per sq.-in.* = 60-*lbs.*, *rate of expansion* = 3, *speed of piston* = 400-*ft. per minute. Allow for friction and back-pressure.*)

2. Show how to calculate the H.P. of an engine, having given its evaporation, and the speed and area of its piston.

3. Describe the construction of a piston, explaining how the piston and piston-rod are kept steam-tight.

4. Describe the means adopted for tightening the brasses at the end of a connecting-rod.

5. Explain the manner in which the slide-valve of a double-acting engine regulates the admission and exit of steam, pointing out the advantages to be derived from the employment of laps and leads.

Trace the action of the steam throughout one revolution, and determine the port-area, in the following case :—

Data :—Rate of expansion = 2, angle of lead = 2°, eccentricity = $2\frac{1}{2}$-ins., diameter of cylinder = 24-ins., stroke = 36-ins., number of revolutions per minute = 50.

6. Describe any system of variable expansion with which you may be acquainted.

An engine is furnished with an ordinary slide-valve and an expansion valve. Shew that in any position of the crank its intercept by a certain circle is the distance between the centres of the two valves for that position.

7. Describe fully the eccentric for working the slide-valve of a steam-engine. How is it thrown in and out of gear?

8. Explain the action of the governor and throttle valve in regulating the speed of an engine.

The average speed of a certain pendulum governor is 36 revolutions per minute, and is not to vary more than *one-eighteenth* above or below the mean. Find the vertical range of the balls, neglecting friction.

9. Describe Farcot's crossed-arm governor.

Why has it been called *isochronous?*

10. Find the proper weight of the reciprocating parts of the engine in Question (1).

B. A. Sc., ADVANCED COURSE.

HEAT AND HEAT ENGINES.

WEDNESDAY, APRIL 22ND :—MORNING, 9 A.M.

Examiner,.....HENRY T. BOVEY, M.A., A.M.I.C.E.

1. Explain the meaning of the term entropy, and shew that the increase of entropy per unit increase of volume, when the temperature is constant, is measured by the increase of pressure, per unit increase of temperature when the volume is constant, it being assumed that the process of alteration is reversible, and that the only external force is a normal pressure. Hence also show that the specific heat at constant pressure is always greater than the specific heat at constant volume.

2. L is the latent heat of evaporation of a liquid at the absolute temperature T and pressure p; C and H are the specific heats of the liquid and vapor at the point of saturation ; u is the difference between their specific volumes ; deduce the relations,

$$\frac{dL}{dT} - H + C = \frac{L}{T} = \frac{u}{J} \cdot \frac{dp}{dT}.$$

1 lb. of water is raised to the temperature T_1 and evaporated ; it then expands to the temperature T_2; find its energy.

3. The steam in an engine expands according to the law of saturated steam from an initial pressure of 50-lbs. per sq. in. to a pressure of 10-lbs. per sq. in ; the temperature of the feed-water is 100°F ; find (*a*) the rate of expansion, (*b*) the mean effective pressure, (*c*) the heat expended per cubic ft. of steam, (*d*) the efficiency of the steam, (*e*) the available heat expended per I.H.P. per hour.

4. An equation expressing the relation between the p, v, and T of superheated steam is, $p \,.\, v = a \,.\, T - b \,.\, p^{\frac{1}{4}}$.
where a= 166.9735, and b= 967.8274.

What assumptions does this formula involve ? If the steam expands in a cylinder according to the adiabatic law to the point of saturation, determine the rate of expansion in terms of the initial volume and pressure.

An engine uses superheated steam at a pressure of 50-lbs. per sq. in. and a temperature 300°F, what must be the rate of expansion for which the steam at the end of the expansion will be at the point of saturation ? Also find the total work done if the expansion be continued to a pressure of 5 lbs. per sq. in.

5. Shew that the governing of an engine is more or less perfect according as the variation of the motive work per unit of variation of the semi-vis-viva of the flywheel differs little or much from unity ; and also shew that it is impossible to govern the engine if this ratio is greater than 2.

THIRD YEAR.

MACHINERY AND MILLWORK.

WEDNESDAY, APRIL 22ND:—MORNING, 9 A.M.

Examiner,.....HENRY T. BOVEY, M.A., A.M.I.C.E.

1. A pivot rests in its step and is subjected to a pressure P in the direction of its axis; find the moment of friction over the base with respect to the axis, (*a*) when the pivot is cylindrical and hollow, (*b*) when the pivot is cylindrical and solid, (*c*) when the pivot is conical.

The diar. of a solid cylindrical cast-steel pivot is $2\frac{1}{4}$-ins.; find the diameter of an equally efficient conical pivot.

2. Given the least of the tensions in the two sides of a belt, shew that the maximum difference of tension depends upon the co-efficient of friction.

The least tension is 150-lbs., the co-efficient of friction .28, the angle subtended by the arc of contact 148° ; find the greatest tension.

3. What is the object of a tightening-pulley?

In the open belt-gear of the last question the radius of the larger wheel is 39-ins., of the smaller 5-ins. A tightening pulley is made to press on the slack-side of the belt. Assuming that the working tension is to the co-efficient of elasticity in the ratio of 1 to 80, find the increment of the arc of contact on the belt pulley, the tension of the slack side, and the force of the tightening pulley.

4. Shew how the disc and roller may be used to integrate the work measured by a dynamometer under a varying resistance.

5. Describe a dynamic apparatus suitable for measuring the friction of an axle.

6. Specify the four forces under the action of which a primary piece moving with uniform velocity is balanced.

7. Show how to determine the efficiency of an axle.

The efficiency of an axle is $\frac{1}{2}$; the working stress in the shaft is 9,000-lbs. per sq.-in.; the co-efficient of friction is .10; how far may work be transmitted?

8. Shew how to determine the efficiency of teeth.

A pair of spur-wheels are 4-ins. and 2-ins. in diameter; the flanks of the teeth are radial, the larger wheel has 16 teeth; the arc of approach = arc of recess = $\frac{3}{2}$ of the pitch.

Shew how to form the teeth, and find their efficiency. (co-effi. of friction = .11.)

EXAMINATION FOR B. A. Sc.

DESIGNS.

(*A specification and estimate required with each design*).

Examiners, ... { HENRY T. BOVEY, M.A., A.M.I.C.E.
JOHN KENNEDY, M.I.C.E.
P. A. PETERSON, M.I.C.E.

1. (*a*) A jib-crane with a throw of six feet, to lift 10 tons.

(*b*) A cantilever bridge with a clear centre span of 250 feet and two spans of 83 feet each.

2. (*a*) A wooden roof for a building 100 feet long and 80 feet wide.
(*b*) A stamp Battery.

3. (*a*) A wooden triangular truss of 30 ft. span to carry a uniformly distributed load of 8,200 lbs. on each side, and a single weight of 10,000 lbs. at the centre of the tie beam.

(*b*) Roof as in Question 2 but of different type.

4. (*a*) A wooden triangular truss A B C carrying a uniformly distributed load of 9,000 lbs. on AC ; AC=30 ft, AB. = 6-ft. and is vertical.

(*b*) A double-flanged plate girder of 80-ft. span for a single-track railway bridge.

5. (*a*) A crane upon a truck, suitable for the erection of staging; the crane to have a vertical and a horizontal movement, a throw of 39 feet, the centre of pressure to be kept fixed at the point of support by means of a movable balance-box.

(*b*) A stamp battery.

6. (*a*) A cheap wooden bridge to carry a roadway at an elevator of 18 ft. over a railway and creek, the distance between the abutments being 67 feet, supports may be put in between the railway and creek. No trussing to be above the railway.

(*b*) A Howe truss of 50-ft. span.

7. (*a*) A wooden roof truss for a span of 34 feet.
(*b*) A Pratt Highway Bridge of 100 ft. span.

8. (*a*) A roof with a pitch of 30°, and trusses of the king-post type with rafters 20-ft. long.
(*b*) A stamp battery.

N.B. In each case assume the loads and working stresses giving reasons for your assumptions.

SECOND YEAR.

DESCRIPTIVE GEOMETRY.

MONDAY, MARCH 30TH :—MORNING 9 to 12.

Examiner,.....C. H. McLEOD, MA. E.

1. Divide a line 5 in. long into 3 parts which shall be in the ratio 3 : 5: 7.

2. A circle has a diameter of 3 in. Draw its involute and the epicycloid formed by a circle of 2 in diameter?

3. Describe an ellipse the axes of which are 3 in. and 2 in., and find the tangent at a point in the curve 1 in. from one of the foci?

4. A right cone having an apex angle of 50° and altitude of 3 in. is cut by a plane which meets the axis at 1 in. from the apex and at an angle of 25°. (*a*) Show the section. (*b*) Shew the development of the surface; (*c*) On the development draw any straight line which does not pass through the apex, and show the projections of the corresponding line on the cone.

5. The section of a prism is an equilateral triangle of 1 in. side and its length 2 in. Show plan and elevation when the lower face is at 30° to the horizontal, and an edge of that face is horizontal and at 45° to the vertical.

6. Project isometrically a rectangular block of stone 2 feet long, 1 foot broad and 4 in. thick, having a cylindrical hole in the centre of 5 in. diameter. Scale *one-sixth*.

7. There is a line, the plan and elevation of which both make angles of 45° with x y and the horizontal trace of which is 1 in. in front of the vertical (*a*) Find the trace of a plane perpendicular to this line (*b*) Find the inclination of this plane to the horizontal. (*c*) Find a point in the line 2 in. distant from the plane.

8. The base of a pyramid is an equilateral triangle of 3 in. side and the altitude is 2 in. Find the angle between any two of the inclined sides.

9. Find the horizontal projection of an angle of 120° when the lines containing it make angles of 30° and 45° with the horizontal plane.

THIRD YEAR.

DESCRIPTIVE GEOMETRY.

MONDAY, MARCH 30TH:—MORNING, 9 to 12.

Examiner,.....C. H. McLEOD, MA.E.

1. ABCD is a regular tetrahedron of 1 in side. ABC is at 60° and AB at 30° to the horizontal. Find its plan and an elevation on a plane parallel to AB.

2. The sides c and b of a spherical triangle are 40° and 50°, and the angle B is 45°. Find the angle C.

3. A cylinder, 2 in. diameter is penetrated by a sphere of 2 in. diameter. The axis of the cylinder is a tangent to the surface of the sphere. Find the line of penetration.

4. Three lines at right angles to each other being the principal directions of an axometric projection, are projected at angles of 100°, 120° and 140°. Construct the scales corresponding to these lines.

5. Project each 5th. degree on a globe of 5 in. radius for the space included between N 60° and N 80° and covering 20° of longitude (*a*) by the polyconic method,(*b*) by the method of equal areas (L'orgnas.)

6. Find the orthographic projection of the shadow cast on a horizontal plane by the objects in question 3, when the rays make angles 30° with both projection planes. (*a*) Find also the shadow which would be cast on the inside of the cylinder if the sphere were removed.

7. A cylinder 3 ft. diameter and 6 in. high is surmounted by a right hexagonal pyramid of 1 ft. base side and 10 ft. in altitude. Find the perspective projection of these objects when 3 ft. on the left and 4 ft. within the picture. One edge of the base of the pyramid is to be at 45° to the picture plane.

8. Find the perspective of the shadow cast by rays as in (6) falling on the objects in (7).

9. Prove the truth of the method used for measuring distances in perspective projections.

SECOND YEAR.

SURVEYING.

THURSDAY, APRIL 23RD :—MORNING, 9 TO 12.

Examiner,.....C. H. McLEOD, Ma.E.

1. Where two mirrors are employed in an optical square, show that the angle between the planes of the mirrors is 45°. (*a*) Represent, by a diagram, the arrangement of the mirrors and the objects sighted to.

2. Show how to produce a line beyond an obstacle (*a*) by chain only, (*b*) by angular measurement only.

3. To find where a perpendicular from an inaccessible point meets a line (*a*) by a cross-staff only, (*b*) by any other method.

4. What do you understand by points being "in line"? (*a*) How would you range a line across a valley?

5. How would you test for the straightness of a magnetic needle?

6. If you were making an angular survey of a lake what means would you adopt to check your work?

7. *A* to *B* bears N 52° E, length 10.64
   B to *C* " S 29¾° E, " 4.09
   C to *D* " S 31¼° W, " 7.68
   D to *A* " N 61° W, " 7.24

   (*a*) Find the area of the figure *A B C D*.
   (*b*) Find the bearing and length of a line joining *A* to *C*.

8. Exhibit a set of notes for a closed traverse survey of four lines, and explain how you would use the compass of the transit to check your work in the field.

9. State some of the purposes which cross-sections serve. (*a*) Explain two special methods of levelling cross-sections on steep ground.

10. In measuring an angle with an engineer's transit how would you proceed in order to eliminate errors in the graduation of the circle?

11. Define the magnifying power of an eye-piece. (*a*) How would you measure it?

12. How would you test for collimation error in a transit, and how would you adjust for it? (*a*) How does this error affect the prolongation of a line, and what means would you adopt to secure the straightness of your line.

13. Given the degree of curvature 2°; and the bearings of two lines to be united by the curve, 25° 30' and 41° 45'; calculate the length of the tangents and the length of the curve. (*a*) Suppose the curve begins at 27 + 45 and that it is necessary to set the instrument at 31 + 75. Show field-notes for setting out the curve.

THIRD YEAR.

SURVEYING.

WEDNESDAY, APRIL 15TH:—MORNING, 9 TO 12.

Examiner,..... .....C. H. MCLEOD, MA.E.

1. Describe the construction and method of using the plane-table.

(*a*) How is it employed in connection with extensive Geodetic surveys?

(*b*) How would you test for collimation and for parallelism of the axis of revolution of the telescope and the plane of the rule?

2. Explain the method of simultaneous double levelling, and compare it with cheek levelling in opposite directions.

3. Sketch and explain the construction of a recording tide-gauge. (*a*) How are tidal observations conducted in rough water?

4. Describe briefly such methods of conducting an extensive Geodetic Survey, as are known to you. (*a*) Describe the system upon which the U. S. Coast Survey is conducted. (*b*) Give some account of the selection and measurement of a suitable base line and of the reduction thereof.

5. Exhibit a record for one complete set of measurements of a 2nd class angle by a repeating instrument with three verniers.

6. Given the three measured angles of a triangle, the observations from which these are deduced, and the area of the triangle, show how to obtain the corrected values of the angles.

7. In a Geodetic Survey of the 1st class at station A the azimuth of B is 300°—44′—01″.34 and the length of $A\,B$, on the spheroid, is 110740.6 metres. The Latitude of A is 44° .43′—40″.12, what is the latitude of B? The logarithms of the quantities B, C, D and E, as computed from Clarke's values of the magnitude and figure of the earth are given in the accompanying table.

8. Explain the formula

$$R\,A = (T + d\,t) + a\,sin\,(\phi - \delta)\,Sec.\,\delta + b\,Cos\,(\phi - \delta)\,Sec\,\delta + c\,Sec\,\delta$$

used in the reduction of time observations. (*a*) Prove the truth of the correction for inclination of axis.

9. The observed altitude of a celestial body is 35° — 42′ — 30″. The barometer standing at 29·5 and temperature of the air 38° Fah. Find the true angle of altitude.

10. The observed angle of elevation to a mountain peak, distant 25 miles, is 1° 30′. Find the difference in level of the stations.

O

SECOND YEAR.

MECHANISM.

SATURDAY, APRIL 4TH:—MORNING, 9 TO 12.

Examiner,.....C. H. MCLEOD, MA.E.

1. What are the components of *screw* motion?

2. There is a crank CP and connecting rod PQ. Obtain a general formula for the ratio of the linear velocities of P and Q and also for the distance traversed by Q for any position of CP. (*a*) What is the character of the motion of PQ? (*b*) When CP is 2 ft., PQ 8 ft. and CPQ 150°, find the instantaneous centre of the link.

3. When two cranks are connected by a link compare the angular velocities of the cranks. (*a*) Represent graphically the ratio of the linear velocities of the ends of the cranks for a given position.

4. In Watts' parallel motion the arms are 3 ft. and 5 ft., and the distance between the arms when parallel is 4 ft. Find two "parallel points" (*a*) when the centres are on opposite sides of the link, (*b*) when they are on the same side of the link.

5. The pitch circles of two equal involute toothed wheels are 6 in. diameter. The obliquity of action is 15°, and the arc of contact nearly 1·5 times the pitch. (*a*) Construct a tooth on one wheel, (*b*) show the base circles and other circles necessary in the construction of the teeth on both wheels.

6. The blocks of a differential pulley are 5 in. and 6 in. in diameter. Through what distance is the weight lifted for one turn of the blocks.

7. In an epicyclic train of 3 wheels A has 20 teeth; B, 25 teeth; C, 30 teeth. Show by drawings the rotation of each of the wheels in the following positions from the initial point:—90°, 180° and 240°. (*a*) When the wheel A is dead. (*b*) When it makes one revolution for each revolution of the arm, and in the same direction.

8. The accompanying diagram was taken from an engine making 100 revolutions per minute. The length of stroke is 4 ft. and the area of piston 150 sq. in. The steam scale is 50. What $H.P.$ does the diagram represent? (*a*) Mark on the diagram the points of cut-off, closing exhaust, opening exhaust, and admission of steam.

9. Sketch (*a*) two forms of feed motion for a drilling machine, (*b*) a feed motion for the cutting tool on a boring bar. (*c*) Watts' steam engine governor. (*d*) An arrangement of toggle joints to give four blows for each revolution of the driving crank.

SECOND YEAR.

MECHANICAL COURSE.

ESSAY.

TUESDAY, APRIL 1ST:—MORNING, 9 TO 12.

Examiner,.....C. H. MCLEOD, MA.E.

Write an essay on the slide valve. After explaining in general the functions of the valve discuss especially (*a*) lead, (*b*) lap, (*c*) the extent of port openings for various portions of the piston, and how this is modified by the obliquity of the eccentric and connecting rods, (*d*) the lead of the eccentric, (*e*) the limit of expansion for a single valve and the use of the double slide valve, (*f*) setting a slide valve.

SECOND AND THIRD YEARS.

MECHANICAL WORK.

FRIDAY, APRIL 17TH:—MORNING, 9 TO 12.

Examiner,.....C. H. MCLEOD, MA.E.

1. What considerations determine the shape of a metal cutting tool?

2. What arrangement of tool feed and lathe speed would you adopt in order to secure a maximum of work in a given time?

3. State how you would cut a large square threaded screw having a coarse pitch.

4. Describe the process of screw cutting by chasing and the construction of the tools employed.

5. How would you chuck (*a*) a cross head (*b*) piston rings?

6. Explain how to fit a slide valve to its seat.

7. Sketch.—(*a*) a slotting tool, (*b*) slotting drill, (*c*) pin drill, (*d*) compass callipers, (*e*) scribing block.

8. Describe hardening and tempering a tool where only the edge is hardened. (*a*) To what color should ordinary light lathe tools be tempered?

9. How is wrought iron case-hardened?

10. In what way would two discs, revolving face to face, wear?

11. What is the use of babbitt metal in bearings?

12. How does the English standard for screw threads differ from the American standard?

13. Describe the process of giving work a fine finish by filing.

14. How should the cutter of a milling machine feed with respect to its direction of rotation?

15. Represent by drawing the positions of the piston and slide valve of a horizontal engine at full power and on one dead centre, having given the following:—

Stroke 12-in., connecting and eccentric rods each 23⅜-in., stroke of valve 2½-in., steam ports ⅞-in., between steam ports 3-in., steam lap ⅜-in. Scale one-quarter.

16. What do you understand by clearance on the exhaust side in the slide valve? What is its object, and what do you say as to its use?

THIRD YEAR.

(MECHANICAL ENGINEERING.)

GEOMETRY OF MACHINERY.

WEDNESDAY, APRIL 15TH:—MORNING, 9 TO 12.

Examiner,..... .....C. H. MCLEOD, MA.E.

1. Show how to resolve a motion of circular translation into component rotations.

2. There are two cranks connected by a link. All the pieces are not in the same plane. Show how to find the instantaneous axis of the link in any given position.

3. The extremities of a bar have motions which are at right angles to the length of the bar, but are not parallel. What is the character of the motion of the bar? (*a*) When the directions of motions are projected on a plane perpendicular to the length of the bar they make an angle of 30° and have a ratio of one-half; represent the axis graphically.

4. Show that a pair of equal ellipses may be made to work in rolling contact. (*a*) When pressure is to be transmitted, by what arrangement may the use of teeth be obviated.

5. Show how to obtain a set of interchangeable multilobe pitch surfaces from an ellipse.

6. Make a sketch of a pair of elliptical bevel wheels.

7. The projections of the axes of two hyperboloids in line contact make an angle of 45°, and the distance between the axes is 4 in. Determine the common element when the angular velocity ratio is 2-3. (*a*) Represent graphically the amount of sliding.

8. Given the pitch circle, number of teeth, and arc of recess, of the driver show how to find the least number of teeth which can be assigned to the follower of a pair of wheels.

9. Describe the construction of the pantographic gear-cutting engine.

FIRST YEAR.

FREEHAND DRAWING.

SATURDAY, MARCH 28th :—MORNING, 9 TO 12.

Examiner,..... C. H. MCLEOD, MA. E.

1. Drawings without models :—

(*a*) Three cubes each having one side parallel to the picture plane and above the horizon line. The cubes are situated to the right, to the left and immediately in front of the eye.

(*b*) A pyramid above the level of the eye resting on four square posts which stand on a platform of one step. The platform is below the eye and the whole to the right of the spectator.

(*c*) The block outline of a house to the left of the spectator as per elevation on black board.

2. Drawings from models :—

(*a*) The group of objects on the table.

(*b*) The shafting, with pulleys, frame and belt as it appears from you point of view.

METEOROLOGY.

MONDAY, APRIL 27TH:—MORNING, 9 TO 12.

Examiner,.....C. H. MCLEOD, MA. E.

1. Find the equivalent of 67° Fahrenheit, on (*a*) the Centigrade scale (*b*) the Réaumur's scale of temperature.

2. Describe the construction of two forms of maximum thermometers and state how they are set.

3. What are the proper conditions for the exposure of a thermometer? Explain the methods employed, and the objects sought in screening thermometers.

4. Describe the mounting of the *Black* bulb thermometer, and state how it is used to ascertain the intensity of solar radiation.

5. What correction does a barometer reading require (*a*) in order to ascertain the atmospheric pressure at the place of observation (*b*) to make it comparable with observation, taken at other places.

6. Why are the periodical variations of the barometer not easily recognized in our latitude?

7. How can the probable occurrence of hoar frost on a given night be predicted.

8. State some of the causes which produce rain.

9. Classify lightning, and describe each form briefly.

10. How is the rain-bow formed. Distinguish between the formation of the primary bow and the secondary bow.

ESSAYS.

WEDNESDAY, APRIL 1ST:—MORNING, 9 TO 12.

Examiner, ...B. J. HARRINGTON, B.A., Ph. D.

FOURTH YEAR MINING.

Write an essay on the Concentration of Ores, considering:

(*a*). The general principles involved.

(*b*). The preparation of the ores.

(*c*). Some of the more important methods of concentration.

THIRD YEAR MINING.

Write an essay on the Sinking and Lining of Shafts (*a*) in hard ground and (*b*) in watery strata.

SECOND YEAR MINING.

Write an essay on Aluminium, considering

(*a*). Its occurrence in nature.

(*b*). Its preparation and properties.

(*c*). Its applications.

THIRD YEAR PRACTICAL CHEMISTRY.

Write an essay on Soap-making, discussing more particularly:

(*a*). The materials employed.

(*b*). The chemical principles involved.

SECOND YEAR PRACTICAL CHEMISTRY.

Write an essay on Artificial Manures, discussing:

(*a*). Their chemical composition.

(*b*). Their application.

FIRST YEAR.

CHEMISTRY.

THURSDAY, APRIL 9TH :—MORNING, 9 TO 12.

Examiner,.....B. J. HARRINGTON, B.A., PH.D.

1. Name the allotropic modifications of Carbon. Give also their distinctive characters and more important uses.

2. Name the Amyloses, and describe one of them.

3. How would you determine the relative proportions of Carbon, Hydrogen and Oxygen in Cane Sugar?

4. Explain quantivalence, and give examples of saturated and non-saturated compounds.

5. What are the principal salts of Potassium? Give their formulæ. How are they obtained? What are their principal uses?

6. Give in tabular form the principal re-actions of the metals of the Calcium group.

7. What colours are communicated to borax beads by the Oxides of Iron Cobalt, Nickel, Manganese, Chromium and Copper, respectively ?

8. How would you test solutions for each of the following acids :—(*a*) Nitric, (*b*) Hydrochloric, (*c*) Hydrobromic, (*d*) Sulphuric, (*e*) Orthophosphoric ?

9. Hydrochloric Acid is added to a solution of a salt and a white precipitate produced. Name the metals which this reaction might indicate, and state how you would ascertain which was really present.

10. How would you distinguish (*a*) a salt of Copper from one of Nickel, (*b*) a salt of Aluminium from one of Zinc, (*c*) a salt of Zinc from one of Magnesium ?

11. Give the names of the following compounds :—

$$K_2PtCl_6, \quad K_3FeCy_6, \quad HgCl_2, \quad Al_2(OH)_6,$$
$$PbCrO_4, \quad C_2H_6O, \quad C_6H_{12}O_6, \quad C_2H_4.$$

12. Give the formulæ of the following substances :—Calomel, Mispickel, Boric Acid, Sal-Ammoniac, Ammonium Carbonate.

NOTE.—The examination on Practical Work will be held in the Chemical Laboratory on Saturday, April 11th, at 9 a.m.

SECOND YEAR.

ZOOLOGY (*In Part*).

WEDNESDAY, APRIL 15TH :—MORNING, 9 TO 12.

Examiner,.....J. W. DAWSON, LL.D., F.R.S.

1. State the characters of the *Anthozoa* as illustrated by any common animal of the class, and explain the nature of corals and coral reefs.

2. State the characteristic differences of *Annulata*, *Crustacea* and *Arachnida*.

3. Describe the external structures of Insects, and the stages of their metamorphosis.

4. Give the characters of the *Reptilia* and *Aves* and the distinctions between them.

5. How is respiration performed in Insects, Tube-dwelling Worms, Lamellibranchiates, and Pulmonates.

6. Describe the highest class of the *Mollusca*, and give an example of each of its orders, with a statement of the points in which these differ.

7. Name and state the place in the classification of the animals producing Sponge, Coral, Mother-of-pearl, Silk, and explain the nature of these products.

8. Describe *Amphioxus* or *Petromyzon*, and state their relations to the other fishes.

9. State the characters of the *Brachiopoda*, and give examples of the Families, recent and fossil.

10. State the characters of the *Decapoda*, *Tunicata*, *Chelonia*, with examples.

11. What animals are indicated by the terms *Marsupialia*, *Myriapoda*, *Trilobites*, *Amphipoda*, *Rodentia*, *Nudibranchiata*: state their places in the system and give examples.

12. Describe the Specimens exhibited, referring them to their places in the System.

THIRD YEAR.

GEOLOGY.

TUESDAY, APRIL 14TH:—MORNING, 9 TO 12.

Examiner,..... .....J. W. DAWSON, LL.D., F.R.S.

1. State and explain the data for the determination of the relative ages of stratified rocks, and the manner of applying them.

2. State the distribution of the Laurentian and Huronian rocks in North America, and mention their distinctive lithological characters.

3. Describe the Siluro-Cambrian of Canada, and state how it is represented in England.

4. Explain the peculiarities of the Oriskany, Calciferous and Potsdam, with their geological relations and characteristic fossils.

5. How would you distinguish by fossils the Trenton Limestone from the Niagara Limestone, and this from the Corniferous?

6. State and explain the classification of the Kainozoic or Tertiary formations, with special reference to their animal fossils.

7. What arethe geological relations of the coal of Vancouver's Island and the lignite of the Western Territories.

8. Explain the supposed origin of boulder-clay and the causes of the distribution of boulders.

9. Give in tabular form the subdivisions of the Carboniferous, Trias, and Cretaceous in Canada and in Europe.

10. Name the more characteristic fossils of two of the following : Acadian Helderberg, Carboniferous Limestone, Pleistocene.

11. State the zoological or botanical and geological relations of *Favosites*, *Lepidodendron*, *Calamites*, *Productus*, *Dadoxylon*, *Ammonites*, *Psilophyton*, *Nummulites*, *Paradoxides*, *Palæoniscus*.

12. State the geological formations to which the fossils exhibited belong, and name the fossils.

THIRD YEAR.

ZOOLOGY.

TUESDAY, APRIL 14TH :—AFTERNOON, 2 TO 5.

Examiner,.....J. W. DAWSON, LL.D.

1. State the general characters of the *Protozoa*, and explain their division into classes or sub-classes, with examples.

2. How would you distinguish an animal of the class *Anthozoa* from a Hydroid or a Polyzoon?

3. State the characters of the *Echinodermata* as illustrated by any common animal of the class.

4. Name the classes of the *Mollusca*, and characterise two of them, with examples.

5. State and define the more important groups of recent and fossil *Crustacea*.

6. Describe the external structures of Hexapod Insects, and the grounds of their division into orders.

7. State the distinctive characters of the class *Pisces*, and its division into orders.

8. State fully the characters of the *Amphibia*, and the distinction between them and Reptiles proper.

9. What structures are indicated by the following terms:—Cilia Corallum, Pedicellaria, Lingual Ribbon, Tentacle, Tracheæ, and in what animals are these structures found?

10. State the differences between *Pulmonates*, *Pteropods* and *Prosobranchiates*, between *Myriapods* and true *Insects*, or between *Dibranchiate* and *Tetrabranchiate Cephalopods*, with examples.

11. Describe, and refer to their provinces and classes, the specimens, exhibited.

THIRD YEAR (CHEMISTRY COURSE).

PRACTICAL CHEMISTRY.

THURSDAY, APRIL 9TH:—MORNING, 9 TO 12.

Examiner,.....B. J. HARRINGTON, B.A., PH.D.

1. State what precautions should be taken in the detection of metals in presence of organic matter.

2. How would you detect the presence of Phosphorus and Sulphur in organic bodies.

3. Describe fully the quantitative analysis of a specimen of Pyroxene.

4. The specific gravity of Sulphuric Acid being 1.842, if you wished to employ 200 grammes for a chemical experiment, how many cubic centimetres would you measure out?

5. How may Chlorine be estimated volumetrically?

6. A sample of Tin is contaminated with Lead and Iron. How would you estimate the quantities of all three constituents?

7. How much Green Vitriol can be made from 10 grammes of Iron?

8. An organic substance was heated with Soda-Lime and the Ammonia evolved collected in Hydrochloric Acid. The precipitate obtained by means of Platinic Chloride weighed 2.232 grammes. What was the weight of Nitrogen in the substance?

9. Describe the valuation of Soda-Ash by means of Standard Sulphuric Acid.

10. Express by means of an equation the Chemical changes which take place in the estimation of Iron by means of Potassium Permanganate.

NOTE.—The examination on Practical Work will be held in the Chemical Laboratory on Monday, April 20th.

THIRD YEAR (MINING AND CHEMISTRY COURSE).

MINERALOGY.

THURSDAY, APRIL 23RD:—MORNING, 9 TO 12.

Examiners,..... { J. W. DAWSON, LL.D., F.R.S.
B. J. HARRINGTON, PH.D., F.G.S.

1. Distinguish (*a*) between inclined and parallel Hemihedrons, (*b*) between vertically direct and vertically alternate Hemihedrons. Give examples.

2. Enumerate the principal forms of the Monoclinic System, giving symbols for each.

3. Show that the following expression is true for prisms of the second order in the Hexagonal system:—

$$a : 2a : 2a : \infty c.$$

4. What is a Zone, a Parameter, a Primary Form, a Brachydome, a Hemi-orthodome, a Paramorph, a Composition Face?

5. Distinguish between Pyramids of the first, second and third orders in the Tetragonal System. Give symbols.

6. What are the principal irregularities of surface exhibited by crystals?

7. Distinguish between Fluorescence and Phosphorescence, and name any minerals in which these properties may be observed.

8. Compare Pyroxene and Hornblende as to general form and chemical composition. Tabulate also the varieties of each species, and point out their differences in composition.

9. Give the general characteristics of the Feldspars. What view is held by many mineralogists with regard to the constitution of the species intermediate between Albite and Anorthite? Describe Microcline and Perthite.

10. Give the blowpipe characters of any five of the following minerals:—Titanite, Tourmaline, Stilbite, Limonite, Stibnite, Bornite, Fluorite.

11. Describe the specimens on the table.

DETERMINATIVE MINERALOGY.

AFTERNOON, 2 TO 6.

This examination will be held in the Chemical Laboratory.

SECOND YEAR, (MINING COURSE.)
CHEMISTRY.

(Answer only ten questions).

THURSDAY, APRIL 9TH:—MORNING, 9 TO 12.

Examiner, ...B. J. HARRINGTON, B.A., PH.D.

1. Name the principal organic Alkaloids, and give tests for the detection of two of them.

2. Into what groups may the Inorganic Acids be divided for purposes of analysis? Give the group reagents. Describe also the detection of acids in insoluble bodies.

3. Give drawings and brief descriptions of apparatus to be employed in the preparation and collection of (*a*) Hydrogen, (*b*) Nitrogen, (*c*) Nitric Acid, (*d*) Hydric Sulphide.

4. How would you distinguish an Oxalate from a Phosphate, a Citrate from a Tartrate, a Succinate from a Formate?

5. Barium Carbonate is added to a cold solution containing Iron, Nickel, Chromium, Aluminium and Manganese. What action takes place?

6. Describe the detection and separation of Antimony, Tin and Arsenic when present in the same solution.

7. Name the metals of groups IV. and V. How would you separate the members of group IV.

8. Describe the separation of Nickel and Cobalt (*a*) by means of $NaClO$ and (*b*) by means of KNO_2.

9. A salt is heated before the blowpipe on charcoal and yields a metallic bead which may be Bismuth, Antimony or Tin. How would you readily find out which metal is really present?

10. What takes place (*a*) when dry Chlorides are heated with H_2SO_4 and $K_2Cr_2O_7$, and (*b*) when compounds of Manganese are fused with a mixture of Potassium Nitrate and Carbonate?

11. Give tests for the detection of Gold when in solution.

12. How may Chromates be reduced to Chromic salts?

13. How would you distinguish Lead Chromate from Bismuth Chromate?

14. Name each of the following compounds and state how they may be prepared:—

$Cu_2Fe(CN)_6$, Hg_2Cl_2, $2KCl + PtCl_4$, $Fe^{III}_2(OH)_6$,
BaC_2O_4, $Pb_3(PO_4)_2$, $BiOCl$, $2(As(CH_3)_2)O$.

15. How would you make a quantitative analysis of a specimen of Spathic Iron Ore?

THIRD YEAR (CHEMISTRY COURSE).

THEORETICAL CHEMISTRY.

(Students in Arts to answer eight questions only).

SATURDAY, APRIL 11TH :—MORNING, 9 TO 12.

Examiner,..... .... B. J. HARRINGTON, B.A., PH.D.

1. Distinguish between the following kinds of formulæ :—(*a*) Empirical, (*b* Molecular, (*c*) Structural, (*d*) Typical. Give examples of each.

2. Give the formulæ and names (*a*) of the Oxides of Manganese, (*b*) of the Sulphides of Iron.

3. How may determinations of the Specific Heat of compounds aid us in some cases in ascertaining the Atomic Weight of an element ?

4. The Molecular Weight of a gas or vapour is equal to the density multiplied by 28.88. Explain this.

5. What is the Periodic Law of the Elements ? Give illustrations.

6. Explain the terms Polymerism, Isomerism, Metamerism, and give examples of each :

7. Two organic bodies gave on analysis the following results. Calculate the formula of each :

	I.	II.
Carbon.	39.96	31.95
Hydrogen.	6.74	4.05
Oxygen.	53.30	64.00

8. Explain by means of graphic formulæ the supposed differences in the constitution of Glyceryl and Allyl.

9. State what you know with regard to the probable constitution of Formic and Oxalic Acids.

10. $H-\overset{\displaystyle H}{\underset{\displaystyle H}{\overset{|}{\underset{|}{C}}}}-(NH_2)'$ $N\left\{\begin{matrix}CH\\H\\H\end{matrix}\right.$ For what compound do these formulæ stand, and what two views as to its constitution do they indicate ?

11. How may Urea be prepared ? To what class of compounds does it belong ? What view is commonly held with regard to its constitution ? Give examples of compounds which it forms with other bodies.

12. Upon what reactions do the detection and determination of Nitrogen in organic bodies depend ?

THIRD YEAR (MINING ENGINEERING).

MINING.

SATURDAY, APRIL 11TH:—MORNING, 9 TO 12.

Examiner, ...B. J. HARRINGTON, B.A., Ph.D.

1. Describe the principal operations involved in sluicing and hydraulic mining.

2. Distinguish (*a*) between dead work and productive work, (*b*) between a drift and a cross-cut, (*c*) between a kibble and a skip, (*d*) between a bucket lift and a plunger lift.

3. What are the principal irregularities noticeable in bedded deposits of useful minerals? What their causes?

4. Upon what does the value of an explosive for blasting purposes depend? In ordinary blasting how are the charges of blasting powder and dynamite regulated?

5. Distinguish between thin and thick lodes. Describe the working of a thick lode by the method of cross-cuts and filling up.

6. Describe fully the tubbing of a shaft, (*a*) with wood, and (*b*) with iron. Discuss the relative merits of the two methods.

7. What is Chaudron's formula, from which the thickness of iron tubbing is deduced?

8. Give sketches of the principal tools used in boring by percussion.

9. Describe the working of a coal-seam (*a*) by square-work, and (*b*) by long pillar-work.

10. What are the sources of impure air in mines?

11. Describe Struvé's ventilator, and give an outline of the methods of distributing air-currents in collieries.

12. What are the more important requirements to be fulfilled by waggons for underground transportation? Give drawings and descriptions of several forms.

13. Explain each of the following terms:—Exploitation, winze, creep goaf, scraper, jumper, brattice, fahrkunst.

FOURTH YEAR (MINING COURSE).

MINERALOGY.

THURSDAY, APRIL 2ND:—MORNING, 9 TO 12.

Examiners,..... ..... { J. W. DAWSON, LL.D., F.R.S.
B. J. HARRINGTON, B.A., PH.D.

1. Explain each of the following symbols:

mOm, mOn, $\frac{\infty On}{2}$, $\infty \bar{P} \infty$, $\infty \breve{P}n$, $m\bar{P}\infty$, $m\breve{P}\infty$, $m\bar{P}n$.

2. Name the minerals indicated by each of the following formulæ:—
$FeAsS$, Ag_3SbS_3, $Cu_8Sb_2S_7$, $MgAl_2O_4$, $(Mg,Fe)_2SiO_4$, $Na_2Al_2Si_6O_{16}$, Al_2SiO_5, $3Pb_3As_2O_8 + PbCl_2$.

Calculate the quantivalent ratios and formulæ of the minerals which gave the following results on analysis:—(1).—SiO_2 37.52, Al_2O_3 31.38, CaO 0.35, Na_2O 25.16, K_2O 0.78, Cl 6.91, (2).—SiO_2 37.50, Al_2O_3 18.65, Fe_2O_3 1.07, Cr_2O_3 4.95, CaO 36.13, MgO 0.52.

4. What faces are commonly exhibited by crystals of the following minerals:—Fluorite, Calcite, Leucite, Zircon, Wernerite, Staurolite, Apatite? Give the symbols in each case.

5. In what ways are pseudomorphs produced? Give examples.

6. Give the hardness and cleavage of Topaz, Orthoclase, Garnet, Pyroxene, Heulandite, Sphalerite.

7. State what you know with regard to the mode of occurrence of the following minerals in Canada:—Magnetite, Apatite, Pyrolusite, Gypsum, Labradorite, Albertite.

8. How would you distinguish native Antimony from native Bismuth, Millerite from Marcasite, Rutile from Brookite, Enstatite from Diallage, Analcite from Chabazite?

9. Give the composition of each of the following minerals, and state to what species they belong:—Jeffersonite, Nephrite, Spessartite, Marmolite, Hyalite.

10. Give the blowpipe characters of Tetrahedrite, Cinnabar, Proustite, Corundum, Titanite, Natrolite.

11. Name the minerals exhibited, and give their characters as seen in the specimens.

B. A. Sc. EXAMINATION (MINING COURSE.).

METALLURGY.

TUESDAY, APRIL 7TH:—MORNING, 9 TO 12.

Examiner,..... .....B. J. HARRINGTON, B.A., PHD.

1. Compare the Basic Process of Thomas and Gilchrist with the ordinary Bessemer Process. Trace in each case the chemical changes which take place in the converter.

2. Give a general classification of the processes employed in the reduction of metals from their ores.

3. Give the chemical and physical characters of commercial Zinc. What impurities is it liable to contain? Describe its extraction by the Belgian process.

4. Give the names and composition of the principal ores of Silver. What are the properties of the metal? Into what groups may the processes for its extraction be divided?

5. A Copper matte contains Silver, Gold and Arsenic. Describe a method for the extraction (*a*) of the Copper and (*b*) of the Silver and Gold.

6. Describe any process for the extraction of Gold (*a*) from auriferous Iron Pyrites, (*b*) from auriferous Mispickel.

7. Upon what reactions are the processes for the extraction of Mercury from its ores based? What is the Alberti process, and for what class of ore is it adapted?

8. State what you know with regard to the action of each of the following acids upon Metallic Iron:—Sulphuric, Hydrochloric, Nitric. How may the surface of Iron be coated with Magnetic Oxide, and what are the advantages of such a coating?

9. Explain each of the following terms briefly:—Abstrich, Abzug, Blicksilber, Blue-metal, Parting, Magistral, Pimple-metal, Rosette Copper, Roaster-slag, Speise, Fettling, Forge-train.

10. Name and describe fully each of the metallurgical products exhibited.

B. A. Sc. EXAMINATION (MINING COURSE.)

ASSAYING.

MONDAY, APRIL 13TH:—MORNING, 9 TO 12.

Examiner,.....B. J. HARRINGTON, B.A., PH.D.

1. Distinguish between Reduction and Fusion, Distillation and Sublimation, Calcination and Roasting, Scorification and Cupellation.

2. What is a Lute? Give examples. Explain also the uses of the following reagents in fire-assaying:—Ammonium Carbonate, Potassium Cyanide-Potassium Ferrocyanide, Litharge, Argol, Nitre, Starch.

3. How would you determine the specific gravity of (*a*) a sample of Coal and (*b*) of Rock Salt? A solution is said to have a strength of 10° Baumé. What does this mean?

4. A specimen consists of Quartz and much visible Gold. How would you determine the proportion of the latter without destroying the specimen?

5. What charges would you employ in assaying each of the following minerals for Silver by the Scorification method:—Galena, Zinc Blende, Tetrahedrite, Mispickel?

6. An ore consists of a mixture of Copper Pyrites and Zinc Blende in a Quartz gangue. How would you determine the proportion (*a*) of Copper, (*b*) of Iron, (*c*) of Zinc.

7. Describe the process known as Quartation. When is it necessary?

8. How would you determine the gold in a sample of auriferous Pyrites by the Chlorination process.

9. Describe the determination of mercury (*a*) in Cinnabar, and (*b*) in an Amalgam.

10. How would you determine the Sulphur (*a*) in a sample of Coal, (*b*) in a sample of Iron Pyrites?

11. What are the chief sources of difficulty in the assay of Tin ores in the dry way? Into what classes may the dry methods be divided? Describe one method for the determination of Tin in the wet way.

12. How would you determine the value of the specimens exhibited

Practical examination in the Laboratory at 2 p.m.

LITHOLOGY (INCLUDING MICROSCOPIC CHARACTERS OF MINERALS).

THURSDAY, APRIL 23RD :—MORNING, 9 TO 12.

Examiners,..... { J. W. DAWSON, LL.D., F.R.S.
B. J. HARRINGTON, B.A., PH.D.

1. Describe the Rosenbusch microscope, and state how it may be used (*a*) in determining the refractive indices of minerals, and (*b*) in measuring extinction angles.

2. What are the optical characters of Tetragonal and Orthorhombic minerals as studied in thin sections with the polarization microscope ?

3. Explain the significance of the terms Micro-granite, Vitrophyre, Granophyre, Felsophyre.

4. Distinguish between perlitic, spherulitic and axiolitic structures. In what rocks may they be observed ?

5. State what you know with regard to the order of solidification of minerals in eruptive rocks.

6. Olivine, Garnet, Acmite, Microcline, Leucite, Nosean. Give the microscopic characters of these minerals, and name rocks in which they occur.

7. What are the principal rocks containing Nepheline as an essential constituent? Describe them briefly.

8. Basalt, Augite-Andesite, Trachyte. Describe these rocks and their mode of occurrence.

9. Give a tabular classification of the sedimentary rocks.

10. Describe each of the following rocks, and discuss their origin : Loess, Argillite, Gneiss, Norite, Breccia.

11. Fluxion-structure, Crystallite, Amygdule, Viridite, Liquid-cavity, Glass-cavity. Explain each of these terms.

Determination of rock-specimens, afternoon, 2 to 4.

FACULTY OF MEDICINE.

FACULTY OF MEDICINE.

MATRICULATION EXAMINATION, 1885.

LATIN.

SATURDAY, MARCH 28th.

Examiner,..... .....H. ASPINWALL HOWE, M.A., LL.D.

NOTE.—Candidates may choose, in this Paper, between Cicero and Virgil.

I. Translate, *without unnecessary change of construction* :—

(A) Potestne tibi hœc lux, Catilina, aut hujus cœli spiritus esse jucundus, quum scias horum esse neminem, qui nesciat, te pridie Kalendas Jan. Lepido et Tullo consulibus stetisse in comitio cum telo? manum, consulum et principum civitatis interficiendorum caussa, paravisse? sceleri ac furori tuo non mentem aliquam aut timorem tuum, sed fortunam P. R. obstitisse? Ac jam illa omitto: neque enim sunt aut obscura, aut non multa post commissa. Quoties tu me designatum, quoties consulem interficere conatus es? Quot ego tuas petitiones, ita conjectas, ut vitari non posse viderentur, parva quadam declinatione et, ut aiunt, corpore effugi. Nihil agis, nihil assequeris, nihil moliris, quod mihi latere valeat in tempore: neque tamen conari ac velle desistis. Quoties jam tibi extorta est sica ista de manibus! quoties vero excidit casu aliquo et elapsa est! tamen ea carere diutius non potes; quæ quidem quibus abs te initiata sacris ac devota sit, nescio, quod eam necesse putas esse consulis in corpore defigere.

(B) Quæ quum ita sint, Quirites, vos, quemadmodum jam antea, vestra tecta custodiis vigiliisque defendite: mihi, ut Urbi sine vestro motu ac sine ullo tumultu satis esset præsidii, consultum ac provisum est. Coloni omnes municipesque vestri, certiores a me facti de hac nocturna excursione Catilinæ, facile urbes suas finesque defendent: gladiatores, quam sibi ille maximam manum et certissimam fore putavit, quamquam meliore animo sunt, quam pars patriciorum, potestate tamen nostra continebuntur. Q. Metellus, quem ego prospiciens hoc in agrum Gallicanum Picenumque præmisi, aut opprimet hominem, aut omnes ejus motus conatusque prohibebit. Reliquis autem de rebus constituendis, maturandis, agendis jam ad senatum referemus, quem vocari videtis.

2. *Pridie Kalendas Januarias*. What day of the month was this? Explain the Roman method of reckoning time.

3. Parse the words of the first sentence of extract (A), down to *neminem*.

4. Decline the nouns *manum, principum, sceleri ;*—the Adjectives *ullo* and *certiores ;*—the Pronouns *mihi, sibi, ille ;* and the Tenses *potest, assequeris ,continebuntur, opprimet.*

5. Give the principal parts of *stetisse, interficere, assequeris, extorta est elapsus est, referemus.* How do you generally form the Comparative and the Superlative in Latin? What terminations are excepted? Supply the degrees of comparison of *multus, parvus, diutius, maximus, facilis, melior.*

6. Write the first person singular of all the tenses, throughout the Moods, of *mitto,* stating how and from what principal part each is formed. Write also the tenses of the Infinitive and the Participles.

7. Explain and give the Rules of Syntax for the construction of:—
a) Pridie *Kalendas ;*—(*b*) principum *interficiendorum* causa ;—(*c*) *sceleri* obstitisse ;—(*d*) *ea* carere ;—(*e*) satis esset *præsidii ;*—(*f*) meliore sunt *animo.*

8. What is the derivation of *pridie, comitium, princeps, tectum, colonus, municipium, vester, præsidium?*

VIRGIL.

1. Translate, *without unnecessary change of construction:*—

(A) "O socii, neque enim ignari sumus ante malorum,
O passi graviora, dabit deus his quoque finem.
Vos et Scyllæam rabiem penitusque sonantes
Accestis scopulos ; vos et Cyclopia saxa
Experti. Revocate animos, mæstumque timorem
Mittite. Forsan et hæc olim meminisse juvabit.
Per varios casus, per tot discrimina rerum
Tendimus in Latium, sedes ubi fata quietas
Ostendunt: illic fas regna resurgere Trojæ.
Durate, et vosmet rebus servate secundis."

(B) Nec non et Tyrii per limina læta frequentes
Convenere, toris jussi discumbere pictis.
Mirantur dona Æneæ ; mirantur Iulum,
Flagrantesque dei vultus, simulataque verba,
Pallamque et pictum croceo velamen acantho.
Præcipue infelix, pesti devota futuræ,
Expleri mentem nequit, ardescitque tuendo
Phœnissa, et pariter puero donisque movetur.
Ille ubi complexu Æneæ colloque pependit,
Et magnum falsi implevit genitoris amorem,
Reginam petit. Hæc oculis, hæc pectore toto
Hæret ; et interdùm gremio fovet ; inscia Dido
Insidat quantus miseræ deus ! At memor ille
Matris Acidaliæ paulatim abolere Sychæum
Incipit, et vivo tentat prævertere amore
Jam pridem resides animos desuetaque corda.

2. Write short notes explanatory of:—*Scyl'æam rabiem—Cyclopia saxa—Matris Acidaliæ—abolere Sychæum.*

3. Parse the words of the first two lines of extract (A).

4. Decline the Nouns *casus, discrimina, rerum* :—the Adjectives *graviora* and *toto* ; the Pronouns *vos, hæe, ille* ; and the Tenses *sumus, accestis, juvabit, movetur.*

5. Give the principal parts of *experti estis, resurgere, movetur, pependi hæret, abolere.* How do you generally form the comparative and the superlative in Latin ? What terminations are excepted? Supply the degrees of comparison of *multus, parvus, diutius, maximus, facilis melior*

6. Write the first person singular of all the tenses, throughout the moods of *mitto*, stating how and from what principal part each is formed. Write also the tenses of the Infinitive and the Participles.

7. Explain, and give the Rules of Syntax for the construction of: (*a*) ignari sumus ante *malorum* ;—(*b*) sonantes accestis *scopulos* :—(*c*) toris jussi *discumbere* pictis. What if *impero* were used instead of *jubeo*?—(*d*) expleri *mentem* nequit ;—(*e*) insidat quantus *miseræ* deus ;—(*f*) memor *matris Acidaliæ.*

8. What is the derivation of *discrimen, secundus, velamen, pariter, complexus, genitor, abolere, resides (reses).*

ENGLISH.

SATURDAY, MARCH 28TH.

Examiner,.....H. ASPINWALL HOWE, M.A., LL.D.

1. Parse fully all the words of:

> Each in his narrow bed forever laid,
> The rude forefathers of the hamlet sleep.

2. What are the two essential parts of a simple sentence, and what the three subordinate parts ? Construct a sentence that shall contain all the five parts.

3. Name the *Moods* of the Verb, and state the significance of each. Write short sentences showing the use of each mood.

4. Distinguish between the terms *Irregular* and *Defective.* Do you consider *was, better, we, went* to be defective or irregular ? Your reason ?

5. Explain, with examples, what is meant by *Subjective genitive, Reflexive pronoun, Gerundive, Sequence of tenses, Adversative Conjunction.*

6. Write the Past Tense, and Perfect Participle of the verbs *awake, beat cling, clothe, fly, flee, lay, lie, sew, sow.*

7. Give the meanings of the following words: *Kingdom, wealth, dormitory, lapidary, streamlet, hillock, seamstress, cyclone, preliminary.* Dissect each of them, and state the force of each component part.

8. Correct errors, where found, in the following, and explain the errors:

(*a*), The belief in immortality is universally held by all.

(*b*), He spoke of you studying Latin.

(*c*), In such a subject nothing but clearness and simplicity are wanted.

(*d*), The man whom you thought was honest turns out a rogue

(*e*), The spider and fly are natural enemies.

(*f*), The water is full of animalculæ.

(*g*), The commandments forbid the doing murder.

(*h*), I am verily a man who am a Jew.

9. Write legibly and punctuate properly the Dictation which will be read to you.

10. Write a short composition on "Kindness to Animals."

MATRICULATION EXAMINATION.

ARITHMETIC.

SATURDAY, MARCH 28TH.

Examiner,.....H. ASPINWALL HOWE, M.A., LL.D.

NOTE.—The full working of each question must be given.

1. Add together, $\frac{3}{8} \div 6$, $\frac{6}{12}\frac{3}{8}$ of $\frac{1}{3}$ of $2\frac{2}{3}$, $\frac{1}{6\frac{6}{7}} \div \frac{7}{8}$, and $\frac{2}{8}\frac{7}{1}$.

2. Divide 6.48 by .0125, and multiply the result by .015625.

3. If 1296 bricks, $9\frac{1}{2}$ inches by $4\frac{1}{2}$ inches, are required to pave a court-yard, how many stones 6 inches square would be needed for the same?

4. In the gold coinage of Britain, 11 parts out of 12 are pure gold. How much per cent of a coin is alloy?

5. What is the rule for Simple Interest on any sum? Derive the formula $I = \frac{PRT}{100}$ in which I is the Interest, P the Principal, R the Rate per cent and T the time in years. Shew from the formula that it would take $12\frac{1}{2}$ years for a sum of money to double itself at 8 per cent.

ALGEBRA.

1. Simplify by removing brackets and collecting like terms

$$25a - 19b - [3b - \{4a - (5b - 6c)\}].$$

2. Find the Greatest Common Measure of $x^2 - 7x + 10$ and $4x^3 - 25x^2 + 20x + 25$. Also the Least Common Multiple of $4(a^3 - ab^2)$, $12(ab^2 + b^3)$ and $8(a^3 - a^2b)$.

3. Shew that the sum of the squares of any two consecutive even integers is four times the square of the odd integer between them.

4. Simplify $\frac{1}{1-x} - \frac{2}{1-x^2}$, and $\frac{a}{bx} \times \left(b + \frac{bx}{a}\right) + \left(1 - \frac{}{a+x}\right)$.

5. Solve the equation $\frac{x+1}{6} - \frac{2x-6}{7} = 6 - \frac{4x+13\frac{2}{3}}{14}$.

6. A person walked to the top of a mountain at the rate of $2\frac{1}{3}$ miles an hour and down the same way at the rate of $3\frac{1}{2}$ miles an hour. He was out 5 hours. Find the whole distance that he walked.

MATRICULATION EXAMINATION.

BRITISH HISTORY.

FRIDAY, MARCH 27TH.

Examiner,.....H. ASPINWALL HOWE, M.A., LL.D.

1. Narrate briefly how the hold on France gained by Henry V. was quickly lost in the reign of his successor.

2. The Commonwealth died with Oliver Cromwell. What causes led to this?

3. What religious movements gave rise to the names *Lollards*, *Independents*, *Presbyterians*, *Methodists*, *Ritualists?* Explain these names, and state in what reign each originated.

4. To whose reigns belong, (1) The conquest of Wales, (2) The conquest of Ireland, (3) The Union with Scotland, (4) The Great Rebellion, (5) The Barons' War, (6) Monmouth's Rebellion, (7) The Massacre of St. Bartholomew, (8) The American War.

5. Who were Agricola, Boadicea, Fair Rosamond, the Empress Matilda Lady Jane Grey, St. Augustine, Archbishop Laud, Perkin Warbeck, Titus Oates, Robert Clive.

6. What are the three Estates of the Realm? Through what stages must a Bill pass before it becomes law?

GEOGRAPHY.

1. Describe geographically a voyage from the Thames to India through the Suez Canal, and back round Cape Horn.

2. What are the foreign possessions of Britain? Where is each situated?

3. Name and trace the course of the largest river of each of the continents,—Europe, Asia, Africa, N. America, S. America, and Australia.

4. What are the boundaries of India, Afghanistan, the Soudan and the Arabian peninsula.

5. What causes, other than Latitude, influence climate? Name places and regions in confirmation of your answer.

6. Where situated and what are Herat, Oxus, Tonquin, Borneo, Cadiz, Ortegal, Belle Isle, Honduras, Maracaybo, Valparaiso?

OPTIONAL SUBJECTS.

GREEK.

SATURDAY, MARCH 28TH.

Examiner,.....H. ASPINWALL HOWE, M.A., LL.D.

1. Translate, *without unnecessary change of construction.*—

(A) Ἐπειδὴ δὲ Κῦρος ἐκάλει, λαβὼν ὑμᾶς ἐπορευόμην, ἵνα, εἴ τι δέοιτο, ὠφελοίην αὐτὸν ἀνθ' ὧν εν ἐπαθον ὑπ' ἐκείνου. Ἐπεὶ δὲ ὑμεῖς οὐ βούλεσθε νομπορεύεσθαι, ἀνάγκη δή μοι ἦ ὑμᾶς προδόντα τῇ Κύρου φιλίᾳ χρῆσθαι, ἢ πρὸς ἐκεῖνον ψευσάμενον μεθ' ὑμῶν ἰέναι. Εἰ μὲν δὴ δίκαια ποιήσω οὐκ οἶδαε. ἀρήσομαι δ' οὖν ὑμᾶς, καὶ σὺν ὑμῖν ὅ τι ἂν δέῃ πείσομαι. Καὶ οὔποτε ἐρῖ οὐδεὶς, ὡς ἐγὼ Ἕλληνας ἀγαγὼν εἰς τοὺς βαρβάρους, προδοὺς τοὺς Ἕλληνας τὴν τῶν βαρβάρων φιλίαν εἰλόμην.

(B) Ἕως ὁ ταῦθ' ὥρμαινε κατὰ φρένα καὶ κατὰ θυμὸν,
Ἕλκετο δ' ἐκ κολεοῖο μέγα ξίφος, ἦλθε δ' Ἀθήνη,
Οὐρανόθεν· πρὸ γὰρ ἧκε θεὰ λευκώλενος Ἥρη,
Ἄμφω ὁμῶς θυμῷ φιλέουσά τε κηδομένη τε.
Στῆ δ' ὄπιθεν, ξανθῆς δὲ κόμης ἕλε Πηλείωνα,
Οἴῳ φανιομένη· τῶν δ' ἄλλων οὐ τις ὁρᾶτο.
Θάμβησεν δ' Ἀχιλεὺς, μετὰ δ' ἐτράπετ', αὐτίκα δ ἔγνω
Παλλάδ' Ἀθηναίην· δεινὼ δέ οἱ ὄσσε φάανθεν.

2. Parse and decline *φρένα, ἔλκετο, μέγα, ἦλθε*, in extract (B).

Give the Future, Perfect, and First or Second Aorist, of *λαμβάνω, προδίδωμι, αἱρέω, ἔρχομαι.*

4. Give the Rules of Syntax for the following constructions :—(*a*) *ἅ τι δέοιτο.* Why Optative ?—And further on *ὃ τι ἂν δέῃ.* Why Subjunctive ?—(*b*) *τῇ Κύρου φιλίᾳ χρῆσθαι.* Why Dative ?—(*c*) *ξανθῆς δὲ κόμης ἦλε.* Why Genitive ?

5. What Prepositions govern (1) the Genitive only, (2) the Dative only, (3) the Accusative only. The Preposition *ἐπὶ* is followed by all the three cases. With what difference of meaning ?

FRENCH.

SATURDAY, MARCH 28.

Examiner,..... .....H. ASPINWALL HOWE, M.A., LL.D.

1. Translate, *as closely as difference of idiom will admit :*

Dès qu'il eut quelque connaissance de la langue latine, on lui fit traduire Quinte-Curce : il prit pour ce livre un goût que le sujet lui inspirait beaucoup plus encore que le style. Celui qui lui expliquait cet auteur lui ayant demandé ce qu'il pensait d'Alexandre : "Je pense, dit le prince, que je "voudrais lui ressembler." Mais, lui dit-on, il n'a vécu que trente-deux ans. "Ah ! reprit-il, n'est-ce "pas assez quand on a conquis des royaumes ?" On ne manqua pas de rapporter ces réponses au roi son père qui s'écria : "Voilà un enfant qui vaudra mieux que moi, et "qui ira plus "loin que le grand Gustave." Un jour il s'amusait dans l'appartement du roi à regarder deux cartes géographiques, l'une d'une ville de Hongrie prise par les Turcs sur l'empereur, et l'autre de Riga, capitale de la Livonie province conquise par les Suédois depuis un siècle ; au bas de la carte hongroise il y avait ces mots, tirés du livre de Job : "Dieu me l'a donné, "Dieu me l'a ôté ; le nom du Seigneur soit béni !" Le jeune prince ayant lu ces paroles, prit sur-le-champ un crayon, et écrivit au bas de la carte de Riga, "Dieu me l'a donnée, le diable ne me l'ôtera pas." Ainsi dans les actions les plus indifférentes de son enfance, ce naturel indomptable laissait souvent échapper de ces traits qui caractérisent les âmes singulières, et qui marquaient ce qu'il devait être un jour.

2. Write all the forms of the Demonstrative Adjective *ce*, and give a simple example of the use of each.

3. Which of the following Personal Pronouns are used (1) for Direct Object, (2) for Indirect Object, (3) for both—*moi, me, toi, te, le, lui, la, leur se*, give short examples.

4. Qui vaudra *mieux*. Wqat are the positive and superlative of this adverb? Also of *mal?* Distinguish between *mieux* and *meilleur*.

5. Trente-deux *ans*. What shade of meaning distinguishes *an* from *année*, *jour* from *journée*, *soir* from *soirée*, etc.

6. Give the Present Infinitive, the Present Participle and the Past Participle of *fit, prit, voudrais dit, vécu, vaudra, ira, lu.*

7. Write out the Present Indicative of *dire*, the Imperative and the Present Subjunctive of *aller*, the simple Future of *avoir*, and the Conditional Present of *être*.

SESSIONAL EXAMINATIONS, 1884-85.

FIRST YEAR.

BOTANY.

SATURDAY, MARCH 14TH:—MORNING, 9 TO 12.

Examiner,.....D. P. PENHALLOW, B.Sc.

1. Describe the parts of the flower, and show the functions of each.

2. The fruit: its morphological character and component parts. Examples of types.

3. Explain the process of fructification in Ahenogams. What is the resulting product?

4. Explain the general process of nutrition.

5. Show what conditions are favorable and adverse to assimilation.

6. Respiration: where performed. and under what conditions.

7. Explain the movement of plants, as illustrated in tendrils, and show what influences may modify it.

8. Explain the principles upon which natural and artificial systems of classification are based.

9. Explain the movement of sap and its relation to nutrition.

10. Give the distinguishing characters of Angiosperms, Gymnosperms, Pteridophytes and Bryophytes.

FIRST YEAR.

CHEMISTRY.

Examiner,.....G. P. GIRDWOOD, M.D.

1. Give a short account of atomicity or quantivalescence. Illustrate your answer by Hydrogen, Sodium, Chlorine, Oxygen, Calcium, and Manganese.

2. Classify inorganic acids, with examples.

3. Give the preparation of Nitrogen, Nitric Acid, Ammonia, Nitrous Oxide, with equations.

4. Classify Metallic Oxides, with examples.

5. Why are Calcium, Strontium and Barium grouped together?

6. Give the properties of Magnesium, Aluminium, Mercury.

7. By what reactions will you show the pressure of Copper, Zinc and Arsenic? Give equations.

8. Classify Alcohols, and show by formulae their relation to Hydrocarbons, Aldehydes and Acids.

FIRST YEAR.

PHYSICS.

MONDAY, MARCH 16TH.

Examiner,.....G. P. GIRDWOOD, M.D.

1. Describe the characteristics of the three conditions of matter.

2. Give examples to show that the forces heat, light and chemical action are interchangeable.

3. Describe briefly the solar spectrum, explaining Frauenhofer's lines.

4. Explain the difference between a luminous and a non-luminous flame, and show how each is made use of in chemistry.

5. Give the laws of combination by volume, showing the relation of the number of molecules to volume.

6. Describe the occurrence, preparation, and properties of Cl. and H. Cl.

FIRST YEAR.

HISTOLOGY.

MONDAY, MARCH 16TH.

Examiner,.....PROF. WILKINS.

1. Give the coats of an artery. Wherein do the veins differ from arteries?

2. What are the varieties of nerve fibre? Describe each.

3. Describe the structure of the respiratory tubes, commencing with trachea and terminating at *alveolar ducts*, but not inclusive of the latter. Mention in what manner the various parts differ in structure.

SECOND YEAR.

WEDNESDAY, MARCH 18TH.

Examiners,..... { PROF. FRANCIS J. SHEPHERD, M.D.
LECT. RICH. MACDONNELL, B.A., M.D.

1. Give the dissection necessary to expose the third part of the Subclavian Artery.

2. Mention in their proper position the parts in relation to the Pancreas, and the dissection necessary to expose it.

3. Describe the first rib, and name in order the parts in relation to its upper surface.

4. Give the attachments, actions, and nerve-supply of the muscles forming the space at the bend of the elbow. What does this space contain?

5. Describe shortly the three Primitive Fissures of the Brain.

6. Describe the origin, course, and distribution of the External Popliteal Nerve.

7. Give a short description of the development of the great veins at the root of the neck, and explain the occurrence of the left Vena Innominata.

Candidates are required to answer four questions only, including one of the first two.

SECOND YEAR.

PRACTICAL ANATOMY.

(THE DEMONSTRATOR'S PRIZE.)

Examiner,.....R. L. MACDONNELL, M.D.

1. Give a dissection to expose the hypoglossal nerve from its exit at the base of the skull to its termination.

2. Enumerate in their relative position the parts seen in a horizontal section of the abdomen at the level of the body of the second lumbar vertebra.

3. Describe the dissection necessary to expose the flexor longus pollicis manus muscle.

4. Give a dissection to expose the Popliteus muscle.

SECOND YEAR.

PHYSIOLOGY.

TUESDAY, MARCH 17TH.

Examiner,.....T. WESLEY MILLS, M.A., M.D.

Write upon the following subjects:

1. The action of the heart.
2. The physics of respiration.
3. Digestion in the small intestines.
4. The functions of the fifth nerve.
5. The formation of the amnion and the placenta.
6. The functions of the spinal cord.
7. The circulatory system: (*a*) Mechanical forces. (*b*) Regulative mechanisms.
8. Respiration from a chemico-physical point of view.
9. Cell physiology, as illustrated in the digestive organs.
10. The cerebral localization hypothesis.
11. Urea.
12. The circulation before and after birth, with special reference to the causes of the changes.

N.B.—(1.) Only six of the above questions to be answered.

(2.) 100 per cent. of the marks can be obtained only by answering the last six questions.

(3.) Special importance will be attached to references to experiments witnessed, illustrating the subjects treated.

THIRD YEAR.

HYGIENE.

MONDAY, MARCH 16TH.

Examiner,.....R. L. MACDONNELL, B.A., M.D.

1. Explain the various causes of the failure of traps with a water seat with the precautions to be taken to prevent such failure.

2. What are the conditions known to influence the spread of intermittent fever.

3. State in detail the directions you would give for disinfecting an apartment with sulphurous acid gas.

4. Mention the diseases which have been traced to the use of impure water.

THIRD YEAR.

MATERIA MEDICA AND THERAPEUTICS.

WEDNESDAY, MARCH 18TH.

Examiner,.....PROF. JAMES STEWART, M.D.

1. Contrast the actions physostigmine, gelsemium, curare and bromide of potassium on:—

1. The Cerebral Motor Convolutions.
2. The Medullary Motor Centres.
3. The Spinal Cord.
4. The Motor Nerves.
5. The Sensory Nerves.

2. Contrast the actions of morphia, atropine, physostigmine and pilocarpine on:—

1. The Salivary Glands.
2. The Sweat Centres—central and peripheral.
3. Intestinal Peristalsis.
4. The Pupil.

Explain fully through what nervous mechanisms the actions you mention are brought about.

3. Compare the hypnotic actions of opium, chloral hydrat and paraldehyde.

4. Mention the more important uses of the iodide of potassium.
In what doses is it employed, and how is it best administered?

5. In what cardiac affections are digitalis, caffeine, nitrite of amyl, and arsenic found useful.
Describe fully, as far as is known, how these different agents act in the troubles you mention.

6. Mention the chief medicinal uses of iron.

Explain how it acts in the diseases you mention. Name several different ways of introducing it into the blood.

Only four of the above questions to be answered.

THIRD YEAR.

PATHOLOGY.

MONDAY, MARCH 16TH.

Examiner,.....T. WESLEY MILLS, M.A., M.D.

Write upon the following subjects:

1. Constitutional resistance in relation to disease.
2. The pathogenous bacteria.
3. Hœmatogenous pigments.
4. Repair after inflammation.

THIRD YEAR.

MEDICAL JURISPRUDENCE.

TUESDAY, MARCH 24TH.

Examiner,.....PROF. WILKINS, M.D.

1. The bodies of two people are discovered dead in a burning house; the bodies only slightly burnt. On examination, it is found that the bones of the skull are crushed in, without any apparent scalp wound in the one body, and incised or punctured wounds are observed on the other. How would you determine that the wounds had been inflicted before death, and that both bodies had been dead before being burnt?

2. What are the signs of death by drowning?

3. What are the symptoms of poisoning by strychnine? What is the fatal dose? How would you distinguish a case of strychnine poisoning from one of tetanus?

4. Describe the stages of *ordinary insanity*, giving the prominent symptoms in each stage.

(Oral examination will be held at the Physiological Laboratory on Wednesday, March 25th, at 3 p.m.)

M.D., C.M., FINAL EXAMINATION.

THEORY AND PRACTICE OF MEDICINE.

MONDAY, MARCH 23RD.

Examiner, ...PROF. R. P. HOWARD, M.D., M.R.C.S.E.

1. Mention the important sequelæ of Measles, Scarlatina, Diphtheria and Cerebro-spinal Fever, and the times of their occurrence.

2. What would lead you to make the diagnosis of Rickets ?

3. Describe the morbid anatomy of Catarrhal Pneumonia.

4. Sketch the treatment of Cerebro-spinal Fever.

5. Mitral Regurgitation, its causes, and the order of occurrence and explanation of its effects upon the heart and other organs.

6. Differentiate between Cardiac and Renal Dropsy, and describe the treatment of the former.

7. Sketch briefly the Ætiology of Pulmonary Consumption.

8. Describe the symptoms and treatment of Acute Mechanical Obstruction of the Bowels.

9. Give the causes and symptoms of Jaundice from obstruction.

10. An adult is the subject of recurring attacks of pain in the head double optics neuritis—unilateral convulsions, confined at first to one side of face and corresponding upper extremity and attended with loss of consciousness. No loss of any special sense beyond impaired vision. After a time the convulsions affect both sides and the losses of consciousness pass into periods of protracted stupor. Neither pyrexia nor paralysis occur. No history of syphilis, but of a fall upon forehead about two years before. Make a diagnosis, and assign your reasons.

N.B.—When describing treatment state the doses of the remedies to be employed.

FACULTY OF LAW.

SESSIONAL EXAMINATIONS, 1885.

FIRST YEAR.

ROMAN LAW.

MARCH 13TH.

Examiner,..... N. W. TRENHOLME, M.A.

Give some account, with dates where possible, of—

1. The Servian Constitution.
2. The XII Tables.
3. The sources of Roman Law.
4. The great agencies in its amelioration.
5. The *corpus juris civilis*.
6. The institutions of the Law of Family.

FIRST YEAR.

CIVIL LAW.

MARCH 19TH.

Examiner,..... PROF. ROBIDOUX.

1. Who is an absentee? When does begin and end the first degree or period of absence? The second? The third?

2. What are the rights of an absentee against those who have obtained absolute possession of the estate, if he reappears after a 30 years' absence, or if a hundred years have elapsed since his birth? By what length of time is the children and direct descendants' claim to the estate of an absentee prescribed, from the time at which the possession becomes absolute?

3. What are the principal causes for annulling marriage? Who can demand the nullity of a marriage? What are the effects of a marriage annulled as regards the *bonâ fide* consort and the issue of such marriage?

4. When are children bound to maintain their parents, and what parents are they obliged to maintain? When does such obligation originate? When does it end? How is this obligation discharged?

5. How is the filiation of legitimate children proved?

6. Before whom may be called a family council for the appointment of a tutor?

Explain the procedure to be followed in each case.

PREMIERE ANNEE.

EXAMEN DE DROIT CIVIL.

Examinateur, ... PROFESSEUR ROBIDOUX.

1o. Qu'est-ce que l'absence? De quand date et combien de temps dure le premier degré ou la première période de l'absence? De quand date et combien de temps dure la seconde période? De quand date et combien de temps dure la troisième période?

2o. Quels sont les droits de l'absent contre les envoyés en possession, s'il reparaît après l'expiration des 100 ans de vie ou des 30 ans de possession définitive? Par quel laps de temps se prescrit l'action que les enfants et descendants de l'absent ont contre le envoyés en possession définitive pour revendiquer contre eux les biens de l'absent?

3o. Quels sont les principaux cas de nullité absolue de mariage? Quels sont ceux qui peuvent demander la nullité d'un mariage? Quels sont les effets d'un mariage putatif par rapport à l'époux de bonne foi et à ses enfants?

4o. Quand les enfants doivent-ils des aliments à leurs parents et à quels parents en doivent-ils? Quand commence cette obligation? Quand cesse-t-elle? Comment s'acquitte la dette alimentaire?

5o. Comment se prouve la filiation des enfants légitimes?

6o Devant qui peut se convoquer le conseil de famille qui doit donner son avis sur le choix d'un tuteur? Indiquez la procédure à suivre dans chaque cas.

FIRST YEAR.

LEGAL HISTORY.

Examiner,..... ....PROFESSEUR LAREAU.

1o. Quelles sont les principales dispositions de l'Acte Constitutionnel de 1774 ?

What are the principal dispositions of the Constitutional Act of 1774?

2o. Quelles sont les principales dispositions de l'Acte Constitutionnel de 1791 ?

What are the principal dispositions of the Constitutional Act of 1791 ?

3o. Quelles sont les principales questions qui ont été débattues dans l'Assemblée Législative de 1791 à 1840?

What are the principal questions debated before the House from 1791 to 1840 ?

4o. Quels sont les principaux éléments dont se compose le Droit Canadien ?

What are the chief elements of our Canadian Law ?

5o. Qu'est-ce que la Coutume de Paris ; l'Ordonnance de 1667?

What are the *Coutume of Paris* and the *Ordonnance* of 1667 ?

6o. Dites ce qu'était l'organisation du système judiciaire sous l'Administration Française.

Describe the judiciary system under the French Regime ?

FIRST YEAR.

CRIMINAL LAW.

MONDAY, MARCH 16TH.

Examiner,.. .....PROFESSOR ARCHIBALD.

1. Give Blackstone's definition of a crime, with critical remarks.

2. Classify crimes, giving a description of each class.

3. A owes B $100, and proceeds to his residence to pay it. B writes a receipt and hands it to A, expecting A to hand him the money in return. A takes away both the money and the receipt. Of what crime, if any, was A guilty; and give your reasons.

4. A husband and wife being together the wife, seeing a door open, enters and carries away property clandestinely ; could both, or either, and which, be indicted for larceny : give your reasons.

5. Define conspiracy, burglary, larceny, libel, and arson.

6. Upon an indictment for murder what proof would be necessary to support a plea of *self-defence?*

7. In the case of adults how many kinds of *non compos mentis* are there? and state under what circumstances each may be a defence to an indictment.

FIRST YEAR.

CIVIL PROCEDURE.

WEDNESDAY, MARCH 18TH.

Examiner,.....M. HUTCHINSON, B.C.L.

1. In whose name, or by whose authority, must a suit be taken to recover a debt due an unmarried woman (*a*) under age (*b*) of full age? How would it be if she was married; and how, if she was a widow?

2. A sues B, a public officer, in damages, by reason of an act done by B in the exercise of his functions. The act complained of was committed in Montreal, but B resides at Quebec. In how many and what districts can the action be brought?

3. What formalities must be observed before a suit such as is mentioned in the last question can be taken against the public officer?

4. A in Montreal writes to B in Toronto that he will sell him a piano for $500. B writes back, accepting. B fails to pay. Under what circumstances can A sue B in Montreal?

5. Under what circumstances may leave be granted to plead in *forma pauperis.* In what case has the court no power to grant such leave?

6. In what cases is it sufficient in a writ of summons to describe a defendant by giving only the initials of his Christian name instead of his full name?

7. How is service made upon a joint stock company? How upon a partnership?

8. What notice is a defendant entitled to of an inscription for proof or judgment, who has appeared in a cause but not pleaded? What notice if he has not appeared?

9. At what stage of the proceedings may a defendant confess judgment? Can the attorney of record confess judgment for his client? Is the plaintiff bound to accept it? What rights has the plaintiff against two defendants, one only of whom has confessed judgment?

FIRST YEAR.

COMMERCIAL LAW.

AGENCY—PARTNERSHIP.

FRIDAY, 20TH MARCH.

Professor,.....L. H. DAVIDSON, M.A., D.C.L.

1. What is Commercial Agency? Name the principal classes of Commercial Agents? State the general principle as to the appointment of an agent by another, and note any limitations of the right. Explain the difference between a special and general agency.

2. How may authority to act as agent be conferred? What is the general rule as to determining the nature and extent of authority when conferred by written instrument? Illustrate the application of the maxim *verba fortius accipiuntur contra proferentem* to written instruments of appointment?

3. What are the ordinary duties or obligations of the agent towards his principal? How may the agent become personally liable towards third parties? What is effect of recognition or adoption by the principal of unauthorized acts of his agent?

4. Mention some instances in which the agent may be deprived by mere operation of law of his right to commission and advances. Mention some of the characteristics of the possession of goods by agent necessary to invest him with a right of "lien" thereon for advances and charges.

5. Define Partnership. How is it created? Can it exist relatively to third parties otherwise than by positive agreement, and, if so, how?

6. What is the relative position of the partners one towards the other in an ordinary partnership? What are their powers? Distinguish between a "dormant" and a "special" partner. What is the effect of non-enregistration of the prescribed declaration of partnership in the case of a General and Limited Partnership respectively?

SECOND AND THIRD YEARS.

ROMAN LAW.

MARCH 13TH.

Examiner,.....N. W. TRENHOLME, M.A.

1. Give an outline of Maine's views on the growth of the Law of Contract.

2. What are the rights and position of parties under a contract where one party is a minor?

3. What is the *Actio Pauliana*, and when and under what circumstances may it be exercised?

4. When are obligations *solidaires* in our law, and when not?

5. What are the principal rules of our law as to responsibility for *delits* and *quasi-delits?*

6. Trace briefly the origin of our Law of Evidence, with the changes therein.

7. How may a debtor be put in default, and what are the consequences thereof?

8. What is subrogation, and how is it effected?

9. Give a short account of the *jus gentium*, and of its influence on Roman Law and in modern times.

SECOND AND THIRD YEARS.

CRIMINAL PROCEDURE.

MONDAY, MARCH 16TH.

Examiner,.....PROFESSOR ARCHIBALD.

1. How is a warrant of arrest for a criminal offence obtained?

2. What do you understand by the words "*Preliminary Examination*," in criminal matters; what are the rights of the prisoner with respect to such examination?

3. Give, as near as you can, a form of a warrant, and state how it is executed.

4. Describe the impannelling of a Petit Jury, mentioning some of the more important incidents which may arise.

5. Define *Indictment:* mention its several parts. Draw an indictment for burglary.

6. What is a challenge to the array? Under what circumstances is it applicable? What is a challenge to the polls, and when is it used? How many peremptory challenges has the prisoner in the several classes of offences?

7. What is libel? How may an indictment for this offence be met?

8. Describe the course of a Bill in the Federal Parliament from its inception till it becomes law.

9. Do the words "OTHER LICENSES" in subsection 9th of sec. 92 of the Confederation Act authorize the Local Legislatures to license banks, and give reasons for your opinion.

10. Can municipal bodies, under authority of a Local Legislature, punish by fine or penalty persons creating a *smoke nuisance?* and give reasons pro and con.

* (The first seven questions are for the Ordinary Class Examination, the whole paper for those competing for the medal.

SECOND AND THIRD YEARS.

CIVIL LAW.

Examiner, ... PROFESSEUR LAREAU.

1 Qu'est-ce qu'un privilége ; qu'est-ce qu'une hypothèque? donnez leur différence essentielle ?

What is a privilege ; what is an hypothec? in what do they essentially differs ?

2. Dans quel rang s'établissent les priviléges sur les meubles ?

In what order the privileges upon moveable properties are enumerated ?

3. Dans quel rang s'établissent les priviléges sur les immeubles ?

In what order the privileges upon immoveables are enumerated ?

4. Combien y a t-il de sortes d'hypothèques ? définissez.

How many kinds of hypothecs ? define.

5. Combien il y a-t-il d'espèces d'hypothèques légales et dites la différence qu'il y a entre les unes et les autres ?

How many kinds of legal hypothecs, and give the difference between the one and the others ?

6.* Qu'est-ce que l'action hypothécaire, et quelles sont les exceptions qui peuvent lui être opposées par le tiers détenteur ? définissez chaque cas.

What is the hypothecary action ; what are the exception the holder may set up ? define each case.

7. Quels sont les effets de l'action hypothécaire ?

What are the effects of the hypothecary action ?

8. Comment s'éteignent les priviléges et hypothèques ?

How privileges and hypothecs become extinc ted ?

9. A a une hypothèque sur la propriété de B pour assurer une dette de $40 que lui doit C ; devant quelle Cour A va-t-il instituer son action ?

A has a mortgage upon the immoveable of B for security of $40 due by C ; before what Court A will institute his action ?

N.B.—The six first questions for ordinary ; the whole for the medal.

SECOND AND THIRD YEARS.

CIVIL PROCEDURE.

WEDNESDAY, MARCH 18TH.

Examiner,.....M. HUTCHINSON, B.C.L.

1. A suit is pending at Montreal. In how many ways may evidence in the cause be taken at the City of Quebec ? Describe each mode.

2. At what stage of the proceedings, and under what circumstances, can witnesses in Montreal be examined before the trial of the cause ?

3. Under what circumstances can a husband give evidence in a suit in which his wife is a party ? If examined has his evidence the same effect as that of an ordinary witness ?

4. How is the testimony of a witness affected by his religious belief ? What form of oath, if any, is necessary to be taken to entitle a witness to give evidence ?

5. A suit is pending in Montreal, witnesses in Halifax, Quebec, Toronto and Winnipeg are required. Can all, or any, of these witnesses be compelled to appear in Montreal ? If so, how ?

6. When, or for what reasons, may a witness object to answer a question put to him ?

7. In what cases may one party compel the other to have the evidence taken by means of stenography ?

8. How and against whom may a witness enforce payment of his expenses ?

9. How can a corporate body which is a party to a suit answer interrogations *sur faits et articles ?* At what stage of the proceedings can this take place ? If the anwers given are false what recourse has the opposite party ?

SECOND AND THIRD YEARS.

CIVIL LAW.

MARCH 19TH.

Examiner,..... PROF. ROBIDOUX.

1. What is the difference as regards payment of debts, between successions devolved to legal heirs, and irregular successions ?

2. What is meant by *unworthiness* in matters of successions ? What is required to prevent inheritance, on account of unworthiness ? What fruits and revenue is an unworthy heir bound to restitute ? Is the sale of an estate by an unworthy heir, valid ?

3. What is meant by benefit of inventory ? What must be done to obtain benefit of inventory ?

4. Who can make a gift *inter-vivos?* Who can acquire by such way ? What is meant by gifts made in contemplation of death ? When are such gifts permitted ? In what form must donations be made ?

5. What are the effects of non-registration of donations ? Who can take advantage of it ?

6. What is meant by separation of property ? Who can require it ?

7. What is meant by *retour légal ?* What is *retour conventionnel?* In what do they differ in their effects ?

8. If deceased leaves as his only heirs, one grand-son and five great grand-sons, how is the estate divided ?

9. If he leaves as his only relatives, his father and a brother, to whom will the estate devolve ?

To whom, if he leaves a brother, three nephews and an uncle ?

If he leaves a nephew, issue of his sister, and three nephews, issue of his brother ?

If he leaves, one whole-blood and two half-blood brothers ?

If he leaves an ascendant of the maternal line and an uncle and a cousin of the paternal line ?

DEUXIÈME ET TROISIÈME ANNÉES.

EXAMEN DE DROIT CIVIL.

Examinateur, ... PROFESSEUR ROBIDOUX.

1. Quelle différence y a-t-il quant au paiement des dettes, entre les héritiers légitimes et les successeurs irréguliers ?

2. Qu'est-ce que l'indignité en matière de successions ? Que faut-il suivant les divers cas, pour qu'un héritier ne soit pas admis à succéder à cause d'indignité ? Quels sont les fruits qu'un héritier indigne est obligé de restituer ? L'aliénation des biens d'une succession par un héritier indigne est-elle valable ?

3. Qu'est-ce que le bénéfice d'inventaire ? Que faut-il pour être admis au bénéfice d'inventaire ?

4. Qui peut donner entre-vifs ? Qui peut recevoir ? Qu'entend-on par donation à cause de mort ? Quand est-elle permise Dans quelle forme doivent-être faites les donations ?

5. Quels sont les effets du défaut d'enregistrement d'une donation ? Quels sont ceux qui peuvent l'invoquer ?

6. Qu'entend-on par séparation de patrimoine ? Qui peut la demander ?

7. Qu'est-ce que le retour légal ? Qu'est-ce que le retour conventionnel ? En quoi le retour légal diffère-t-il, dans ses conséquences, du retour conventionnel ?

8. Si le *de cujus* laisse pour seuls héritiers un petits-fils et cinq arrière-petits-fils, comment se partage la succession ?

Si le *de cujus* laisse pour seuls parents son père et un frère, à qui écherra sa succession ?

Si le *de cujus*, laisse pour seuls parents, un frère, trois neveux et un oncle à qui écherra sa succession ?

Si le *de cujus* laisse pour seuls parents un neveu, enfant de sa sœur et trois neveux, enfants de son frère, comment se partagera sa succession ?

Si un frère laisse pour héritiers un frère germain et deux frères utérins comment se partagera sa succession ?

Si le *de cujus* laisse pour seuls parents un ascendant maternel et un oncle et un cousin paternels, comment se partagera sa succession ?

SECOND AND THIRD YEARS.

PARTNERSHIP—JOINT-STOCK COMPANIES.

FRIDAY, 20TH MARCH.

Professor, ... L. H. DAVIDSON, M.A., D.C.L.

1. How may the contract of partnership be formed or held to exist. (1) between the parties themselves. (2) As to third parties. State the tests to be applied in determining the existence or non-existence of a partnership in the absence of definite partnership articles.

2. State some of the points of difference between "co-owners" and "partners." Explain the powers and obligations of the partners as between themselves, and as to third parties with whom they deal.

3. What are the peculiar features of a "Limited Partnership;" and what is necessary to its formation? Explain the position and rights of the special partner or partners?

4. Although included under the title partnership in the Code, point out the distinguishing characteristics of the Joint Stock Company; and explain in what respects it resembles a *Corporation proper*. Detail the steps necessary to be taken for the formation of such a Company.

5. How may the ordinary commercial partnership relation be disolved and what are the effects of dissolution?

6. How are the affairs of a Joint Stock Company directed and managed; State the chief powers of those entrusted with its management. What is meant by the capital of the Company? How is it called in? Can it be altered after incorporation, and, if so, how?

7. How is the will of the partnership *etre* to be ascertained in case of differences of opinion in a firm composed of several members? State the rules and principles applicable to such cases, distinguishing between differences which relate to matters of mere management within the scope of the business and those relating to matters not covered by the legitimate business of the Company.

8. What principles should govern in determining the amount of capital of a Joint Stock Company, and in calling it up? Explain fully? How may the calls be recovered.

9. What is the position of the Directors of a Joint Stock Company towards it and towards the public What are their principal powers? and what their duty and obligation.

INTERNATIONAL LAW AND INSURANCE.

MARCH 21ST.

Examiner,.....PROFESSOR W. H. KERR, Q.C., D.C.L.

1. In 1870 a Belgian woman was married to a Frenchman. In 1874 a judgment of *séparation de corps* from her said husband was pronounced in Paris at the suit of the wife. In 1875 she became naturalized in the Duchy of Saxe-Altenburg, where *séparation de corps* is equivalent to divorce, and soon afterwards married at Berlin a Roumanian.

Was the marriage at Berlin valid? Give the reasons for your opinion.

2. A Frenchman domiciled in England was the father of an illegitimate son born in London; he afterwards married in London the mother of the said child and some years afterwards died intestate (his wife having predeceased him), leaving besides the eldest, two other sons issue of his marriage. He left real estate both in England and in France and moveable property in both countries.

What should be the shares of his three sons in his estate, and how should it be divided?

3. A owns a house, a warehouse, and a stable which he insured against fire in Company Z for $4,000. In Company Y he insures the house and warehouse for $3,500 and in Company X the stable and house for $3,000.

The warehouse	is damaged by fire		$6,000
The house	"	"	3,000
The stable	"	"	1,000

What is the amount each of the insurance companies must pay to the insured

4. W. insured his life with defendant company in 1862 for £1,000. The policy was in the usual terms, and had endorsed on it a condition that, should the assured die by his own hand and before the policy should be in existence three years, the policy in such case should become void, except to the extent of any bonâ fide interest therein in any other person or persons for his or their benefit for a sufficient pecuniary consideration. In 1863 W. borrowed on mortgage of real estate £1,000 from the defendant company, and as a further security deposited with the company the said policy on his life by way of equitable mortgage. Within three years of the date of the policy W killed himself.

Did the policy become void?

5. During a voyage a heavy storm endangered the vessel, cargo and freight, necessitating jettison. One of the hatches was opened to permit goods about to be jettisoned to be brought on deck. Whilst the hatch was so open, a sea burst over the vessel and a quantity of water passed through the hatch into the hold and damaged goods there.

What remedy, if any, has the owner of the goods so damaged in the hold?

6. During war between France and Italy, an Italian war-vessel attacked a French merchantman, which sought safety in flight. After a chase, lasting some hours, the French vessel succeeded in getting within three miles of the coast of Spain, where the Italian vessel fired into her, whereupon she surrendered and was taken possession of by the Italians and in company with her captor entered Cadiz for repairs.

What are the rights of the captors and of the owners of the captured vessel, and what is the duty of the Spanish Government?

7. During the existing difficulties between France and China, France established a blockade of certain Chinese ports, and by force of arms defeated bodies of Chinese troops and destroyed large quantities of Chinese property. The British Government instructed the authorities of Hong Kong to refuse French war-ships permission to refit or to coal there, save as if France and China had declared war against each other. Against the refusal made in accordance with such instructions the French Government protested.

Was the British Government justified in giving the instructions? Give your reasons?

8. A vessel on a voyage from Quebec to Liverpool with a cargo struck upon an iceberg in the Atlantic, and was very considerably injured. She reached Liverpool, and was afterwards taken into dock, and on discharge of the cargo and a survey of the ship the owners abandoned to the underwriters on ship and claimed as for a total loss.

Taking for granted that the abandonment was good, who were entitled to the benefit of the freight received for the carriage of the cargo?

9. A, effected an insurance on his own life, payable to his wife. During the continuance of the policy he was convicted before a Court, having jurisdiction in the Province of Quebec, of murder, and executed in accordance with the judgment pronounced. It was afterwards discovered that A. was innocent, and an Act of Parliament was passed declaring his innocence.

Is the Insurance liable to pay to the wife the amount insured? Give the reasons for your opinion.

The first six questions for ordinary students. The whole paper for Medal and professors prize.

UNIVERSITY SCHOOL EXAMINATIONS.

UNIVERSITY SCHOOL
EXAMINATIONS.

UNIVERSITY SCHOOL EXAMINATIONS, 1885.

PRELIMINARY SUBJECTS.

GEOGRAPHY.

MONDAY, JUNE 1.—MORNING 9 TO 11 A.M.

Examiners, ... { CHAS. E. MOYSE, B.A. / REV. PROF. SCARTH, M.A. / REV. PROF. READ, M.A. / R. W. BOODLE, B.A.

[*Number your answers carefully. When a name answers the question, give it without any detail whatever.*]

1. Mention: (*a*) any large river and any large lake lying *entirely* in British North America, (*b*) the most populous province in the Dominion of Canada; two *other* provinces—the one maritime, the other inland—and their capitals, (*c*) a tributary of the St. Lawrence and the bank (left or right) on which it is situated, (*d*) lakes Erie, Superior, Huron, Ontario, in order of situation, (*e*) a large island on the E. of the Gulf of St. Lawrence, and its capital, (*f*) one of the United States bordering on Canada, (*g*) the situation of the Bay of Fundy, (*h*) two important Canadian exports.

2. Mention: (*a*) two European peninsulas one pointing southwards the other northwards, (*b*) a European boundary-range and the countries it separates, (*c*) the straits between the Mediterranean and the Black Sea, and a large river flowing into the Black sea, (*d*) a range of mountains extending from the Black Sea to the Caspian and the country in which it lies, (*e*) the countries in their order which bound France; the form of government (empire kingdom or republic) of each, and its capital, (*f*) the *seas* and *straits* you pass through in sailing from London to Bombay, by the Suez Canal, (*g*) the largest river flowing into the Adriatic, (*h*) three islands (no two in the same group) in the Mediterranean and the European country nearest to each, (*i*) the situation of capes Nordkyn, Clear and Finisterre, (*j*) a range of mountains in England and Scotland respectively; a river in England Scotland and Ireland respectively, and the coast on which the English river is situated; the two most populous

places in Ireland and Scotland respectively, (*k*) the most populous country in Europe and, (*l*) the most densely populated; (*m*) a European country exporting wheat; another, exporting wines.

3. Mention: (*a*) the oceans which bound Asia, (*b*) the strait separating Asia from N. America, (*c*) a river on the N. slope of Asia, (*d*) the most populous country in Asia; its capital, and also one of its large rivers, (*e*) the gulfs bounding Arabia on the E., (*f*) the expanse of water into which the Ganges flows, and an important place on the Ganges, (*g*) the countries in which Cabul, Teheran, Tobolsk and Smyrna are situated, (*h*) the direction of New Zealand from Australia and an Australian export (*i*) the situation of the Punjaub and Yeddo.

4. Mention: (*a*) the African State which lies opposite the southernmost point of Spain, (*b*) a large French possession in Africa, (*c*) a large gulf on the W. of Africa and a large river flowing into it, (*d*) the situation of Khartoum and Cape Town, (*e*) The city which stands at the head of the Nile delta, (*f*) a large island lying off the S. E. coast of Africa, and an island near it which belongs to France, (*g*) two important African capes and their situation, (*h*) an important African export and the region which exports it.

5. Mention: (*a*) A river of the United States which flows into the Atlantic, (*b*) A large tributary of the Mississippi, and the bank on which it is situated, (*c*) the situation of Chicago, New Orleans, and the Alleghany mountains, (*d*) two important places on the Atlantic coast of the United States, (*e*) A British, a French, and a Spanish West India island, (*f*) the countries which lie on the W. coast of South America and the capital of one of them, (*g*) The longest range of mountains and the longest river in South America, (*h*) the situation of Cape Horn and of Buenos Ayres.

6. (*a*) How many degrees is the Arctic circle from the Equator? the Tropic of Capricorn from the Arctic circle? (*b*) In giving the exact position of any place on the earth's surface, we mention its distance from two lines; what are the *lines* called? (*c*) Which of the two places, St. Petersburg and London, has mid-day earlier than the other? (*d*) why? (*e*) what is the shape of the Ecliptic and at how many points does it cut the Equator? (*f*) when the sun is situated over those points, what is the result? (*g*) Why does the sun never shine perpendicularly on any part of Canada? (*h*) Give a reason why Australia has not her summer when we have ours.

ENGLISH GRAMMAR.

MONDAY, JUNE 1ST :—AFTERNOON, 2 TO 4.

Examiners, ... { CHAS. E. MOYSE, B.A. / REV. PROF. SCARTH, M.A. / REV. PROF. READ, M.A. / R. W. BOODLE, B.A.

1. Write the feminine of actor, executor, wolf, prince; and the plural of pea, ox, knife, house, man, giving, in each case, a reason for the formation, of the word.

2. What is meant by voice, agreement, case, abstract, collective, inflexion clause?

3. Give the principal parts of these verbs. teach, hew, bear, bare, lay, lie seek. What is a *strong* verb?

4. What meaning is conveyed by the following suffixes, —ible, —sh, —ory? and what by the prefixes mis—, dis—, with—, out—?

5. What are the chief kinds of sentences? Give an instance of each.

6. What are the chief rules for punctuation?

7. Analyse:—

a. In spite of his savagery and coarseness, the name "Great" was fairly due to him, whose *energy* and foresight *moulded* a mass of *brutal* nobles and crouching serfs into the great nation of the Russians.

b. No more delays vain *boaster*, but begin!
I prophesy beforehand, I shall win,
Palæmon shall be judge how *ill* you rhyme;
I'll teach you how to brag another time.

8. Parse the words italicized in the last question.

ARITHMETIC.

TUESDAY, JUNE 2ND :—MORNING, 9 TO 12.

Examiners, ... { REV. PRINCIPAL LOBLEY, D.C.L. / G. H. CHANDLER, M.A.

1. Find the difference between $\frac{2}{3}$ of $1\frac{1}{2}$ of $\frac{7}{8}$ of 2 tons and $\frac{3}{2}$ of $\frac{16}{15}$ of $\frac{7}{24}$ of $2\frac{1}{7}$ cwt.

2. The quotient and divisor are each 273 and the remainder is 21, what is the dividend ?

3. Express 2 yds. 2 ft. 9 in. as the decimal of a mile.

4. A floor 54 ft. by 60 ft. is to be covered with carpeting which is 27 inches wide and $1.375 per yard; what will be the cost ?

5. If apples be bought at $1.10 per bushel, and after 2 in every 15 have been picked out as bad, the remainder be sold at 33 cents per peck; what is the gain per cent ?

6. Find the least common multiple of 9, 16, 26, 39, 72 and 234.

7. If 8 men can do as much work as 21 boys, and a certain piece of work could be done by 12 men and 7 boys in $3\frac{3}{4}$ days, how long would it take 5 men and 14 boys ?

8. What would it cost to insure a house for $6000, the rate being one-third of one per cent per annum ?

9. In what time will the simple interest on $37,830 at 6 per cent. per annum be as much as the compound interest on $16,000 at 5 per cent. per annum for 3 years ?

10. Find the square root of 626.25.

BRITISH AND CANADIAN HISTORY (*Collier* and *Jeffers*).

TUESDAY, JUNE 2ND :—AFTERNOON, 2 TO 5.

Examiners..... { CHAS. E. MOYSE, B.A.
REV. PROF. SCARTH, M.A.
REV. PROF. READ, M.A.
R. W. BOODLE, B.A.

[*N.B.—Questions* 2, 4, 5, 7, 11, 13, 14 *should be answered very concisely*].

1. How did the days of the week get their names ? Give the meaning of each.

2. In regard to *four* separate districts in Europe, at any time in the possession of the English Crown, state : (1) in what reign they were won (2) and how, (3) in what reign they were lost (4) and how.

3. Contrast the civil wars in the reigns of Stephen, Henry III., Henry VI. to Richard III., and Charles I., by mentioning (1) their cause, (2) and their results. (3) Give one important battle in each and (4) say which side won it.

4. Draw a pedigree showing the relationship of George I. to William III. and Anne, *or* of James I. to Edward VI. and Elizabeth.

5. Mention one event connected with each of the following dates: A.D. 449, 1172, 1215, 1492, 1640, 1689, 1707, 1759, 1776, 1832.

6. Who were the Indian allies of the French and of the English, respectively, in early Canadian history? How were the French colonists affected thereby?

7. What stages in Canadian history are represented by the names of Cartier, de la Roche, Champlain, Colbert, Gen. Murray, Papineau?

8. Define accurately the *causes* that led *either* to the war resulting in the Cession of Canada *or* to the war of 1812.

9. Give a short account of the Red River troubles of 1870.

10. Explain the "Rebellion Losses Bill," and the effects of its reception on this province.

11. In what reigns and with what purpose were the following enactments made: Repeal of the Corn Laws; Acts of Settlement, and Uniformity; Poynings' Law; British North America, Septennial, and Quebec Acts; Petition of Right?

12. Clearly explain the following terms: Cabinet, Double Majority, Flagellants, Letters of Junius, South Sea Bubble, West Indies.

13. State one historical fact about each of the following men: Anselm, B. Arnold, Burleigh, T. Cromwell, Maisonneuve, Oldcastle, Pontiac, Pym, Walpole, Wilkes.

14. In what country are the following places? What great event took place at them and in what reign? Blenheim, Clarendon, Culloden, Fotheringay Castle, Plassey, Ryswick, Saratoga, St. Eustache, St. Helena, Sebastopol, Torres Vedras, Trafalgar.

OPTIONAL SUBJECTS.

THE GOSPELS.

MONDAY, JUNE 1ST:—MORNING, 11 TO 12.

Examiners,..... { CHAS. E. MOYSE, B.A.
REV. PROF. SCARTH, M.A.
REV. PROF. READ, M.A.
R. W. BOODLE, B.A.

1. State (i.) the disciple whom Jesus loved, (ii.) the disciple who denied Him, (iii.) the disciple who betrayed Him.

2. Write out any three of the Beatitudes.

3. Name three of our Saviour's miracles, and give full particulars of any one.

4. Give the substance of the parable of the Prodigal Son; *or*, of the Sower.

5. Give our Saviour's exposition of the sixth commandment.

6. How often and to whom did our Lord appear after His resurrection?

GREEK.

WEDNESDAY, JUNE 3RD:—MORNING, 9 TO 12.

Examiners,..... { REV. GEORGE CORNISH, LL.D.
REV. CANON NORMAN, D.C.L.

1. Translate:—Xenophon Anabasis, Bk. V.:—

Ἐν δὲ τούτῳ τῷ χρόνῳ Ξενοφῶντι, ὁρῶντι μὲν ὁπλίτας πολλοὺς τῶν Ἑλλήνων, ὁρῶντι δὲ καὶ πελταστὰς πολλοὺς καὶ τοξότας καὶ σφενδονήτας καὶ ἱππεῖς δὲ καὶ μάλα ἤδη διὰ τὴν τριβὴν ἱκανούς, ὄντας δ' ἐν τῷ Πόντῳ, ἔνθα οὐκ ἂν ἀπ' ὀλίγων χρημάτων τοσαύτη δύναμις παρασκευάσθη, καλὸν αὐτῷ ἐδόκει εἶναι καὶ χώραν καὶ δύναμιν τῇ Ἑλλάδι προσκτήσασθαι, πόλιν κατοικίσαντας. Καὶ γενέσθαι ἂν αὐτῷ ἐδόκει μεγάλη, καταλογιζομένῳ τό τε αὐτῶν πλῆθος καὶ τοὺς περιοικοῦντας τὸν Πόντον. καὶ ἐπὶ τούτοις ἐθύετο πρίν τινι εἰπεῖν τῶν στρατιωτῶν, Σιλανὸν παρακαλέσας, τὸν Κύρου μάντιν γενόμενον τὸν Ἀμβρακιώτην. Ὁ δὲ Σιλανός, δεδιὼς μὴ γένηται ταῦτα καὶ καταμείνῃ που ἡ στρατιά, ἐκφέρει εἰς τὸ στράτευμα λόγον ὅτι Ξενοφῶν βούλεται καταμεῖναι τὴν στρατιὰν καὶ πόλιν οἰκίσαι καὶ ἑαυτῷ ὄνομα καὶ δύναμιν περιποιήσασθαι.

2. Translate, and where it is necessary explain the following:—(*a*) Ὅτι ταχίστα. (*b*) Ναυαρχῶν δὲ καὶ τυγχάνει. (*c*) Ἔδοξε καὶ ταῦτα. (*d*) δίκην δεδώκασιν. (Mention any similar phrase in Latin to this and to the one following.) (*e*) Ἄλλος ἄλλον εἵλκε. (*f*) Ἀνέκραγον ὡς οὐ δέοι ὁδοιπορεῖν.—(of what idiom is this last an illustration?)

3. (*a*) Parse ἐκπεπτωκότες, προδραμόντες, ἀπέθανε, ἀναστάς, ἀφελέσθαι εἰλήφαμεν. (*b*) Write the principal parts of μετέχω, τρέφω, ἀκούω, αἰσθάνομαι, δείδω.

(B)

4. Translate :—Homer, Illiad, Bk. IV. :—

(*a*) Εἰπερ γὰρ φθονέω τε καὶ οὐκ ἐῷ διαπέρσαι,
οὐκ ἀνύω φθονέουσ', ἐπειὴ πολὺ φέρτερός ἐσσι.
ἀλλὰ χρὴ καὶ ἐμὸν θέμεναι πόνον οὐκ ἀτήλεστον·
καὶ γὰρ ἐγὼ θεός εἰμι, γένος δ' ἐμοὶ ἔνθεν ὄθεν σοί,
καί με πρεσβυτάτην τέκετο Κρόνος ἀγκυλομήτης,
ἀμφότερον, γενεῇ τε καὶ οὔνεκα σὴ παράκοιτις
κέκλημαι, σὺ δὲ πᾶσι μετ' ἀθανάτοισιν ἀνάκοιτις
ἀλλ' ἤτοι μὲν ταῦθ' ὑποείξομεν ἀλλήλοισιν,
σοὶ μὲν ἐγὼ, σὺ δ' ἐμοί· ἐπὶ δ' ἕψονται θεοὶ ἄλλοι
ἀθάνατοι. σὺ δὲ θᾶσσον. Ἀθηναίη ἐπιτεῖλαι
ἐλθεῖν ἐς Τρώων καὶ Ἀχαιῶν φύλοπιν αἰνὴν,
πειρᾶν δ' ὡς κε Τρῶες ὑπερκύδαντας Ἀχαιοὺς
ἀρξωσι πρότεροι ὑπὲρ ὅρκια δηλήσασθαι.

(*b*) Ὦ νὶὲ Πετεῶο, διοτρεφέος βασιλῆος,
καὶ σὺ. κακοῖσι δόλοισι κεκασμένε, κερδαλεόφρον,
τίπτε καταπτώσσοντες ἀφέστατε, μίμνετε δ' ἄλλους ;
σφῶϊν μέν τ' ἐπέοικε μετὰ πρώτοισιν ἐόντας
ἑστάμεν ἠδὲ μάχης καυστείρης ἀντιβολῆσαι,
πρώτω γὰρ καί δαιτὸς ἀκουάζεσθον ἐμεῖο,
ὁππότε δαῖτα γέρουσιν ἐφοπλίζωμεν Ἀχαιοι.
ἔνθα φίλ' ὀπταλέα κρέα ἐδμεναι ἠδὲ κύπελλα
οἴνου πινέμεναι μελιηδέος, ὄφρ' ἐθέλητον.
νῦν δὲ φίλως χ' ὁρόωτε καὶ εἰ δέκα πύργοι Ἀχαιῶν
ὑμείων προπάροιθε μαχοίατο νηλεῖ χαλκῷ.

5. (*a*) Point out Epic forms in the above extracts and give the equivalent forms in attic. (*b*) Give the name and scale of the metre, and scan the last four verses of ext. (B) noting any metrical peculiarities. (*c*) Write a note on the Digamma.

6. (*a*) Give as accurately as you can the meaning and derivation of the following epithets :—*Βοῶπις, ἀγκυλομήτης, ἀμύμων, ἀβλῆτα, ἀγελείη, παναίολος.* (*b*) Derive, and give the meaning of the following :—*τέττα, μήστωρες, δαΐφρονα, ἰόμωροι, ἐλατῆρι, ἐρισμά.* (*c*) Parse carefully the following :—*φρεσί, κῆρι, διαπέρσαι, ἠιξεν, ἀροιο, ῥίγησεν, χάνοι, πάγη, ἔδυν, ψεύδεσσι, ὄθεν, ἰφι.*

7. (*a*) Write down the Genitive and Dative, Sing. and Plu., of :—*φλόξ, γίγας, θυγάτηρ, δορύ.* (*b*) And the Genitive and Accusative Sing. and Plural of :—*κύων, φύλαξ, τριήρης, ἱππεύς, λιμήν, θρίξ.* (*c*) Write

down the Nominative Singular and Plural of :—*κώμας, χώρας, γαστέρα, χερσίν, ποσί, Περσῶν.*

8. (*a*) Mention the Greek Pronouns that answer to the Latin *ipse, idem, qui, quis? hic, ille, se.* (*b*) How many classes of Adjectives are there in Greek? Write down the Comparative and Superlative of :—*γλυκύς, μέγας, σαφής, ταχύς, αἰσχρός.* (*c*) Write down the Positive of:—*πλεῖστος, ἐλάχιστος, ῥᾷστος.*

9. (*a*) What tenses denote single acts, continuous action, and acts of which the result is permanent? (*b*) Write the 1st person Sing. of the principal tenses of *εὑρίσκω, ἀπόλλυμι, ἐκπλήσσω, ἵστημι, πάσχω, πίπτω.*

10. Turn into Greek :—(1) The same king. (2) The king himself. (3) The king gave him all the gold. (4) The half of the land. (5) The middle of the road. (6) The good man ; the man is good.

LATIN.

MONDAY, JUNE 8TH :—MORNING 9 TO 12.

Examiners, ... { REV. GEORGE CORNISH, LL.D. / REV. CANON NORMAN, D.C.L.

1. Translate, Virgil, Aeneid I. :—

Talia voce refert, curisque ingentibus aeger
Spem voltu simulat, premit altum corde dolorem.
Illi se praedae accingunt *dapibusque* futuris:
Tergora deripiunt costis et *viscera* nudant;
Pars in frusta secant *veribusque trementia* figunt;
Litore *aena* locant alii, flammasque ministrant.
Tum victu revocant *viris fusique* per herbam
Inplentur veteris Bacchi pinguisque ferinae.
Postquam exempta fames epulis mensaeque remotae,
Amissos longo socios sermone requirunt.
Spemque metumque inter dubii, seu vivere credant,
Sive extrema pati nec iam exaudire vocatos.
Praecipue pius Aeneas nunc *acris* Oronti,
Nunc Amyci casum gemit et crudelia secum
Fata Lyci, fortemque Gyan, fortemque Cloanthum.

2. (*a*) Parse carefully the words in Italics in the above ext. (*b*) Comment on the grammatical construction of the following :—(1) Dum *con-*

deret urbem. (2) Tot *adire* labores impulent. (3) Mene *desistere*. (4) *Alto* prospiciens. (5) Parce *metu* Cytherea. (6) *Cui* nunc cognomen *Iulo* additur.

3. Write down the name and scale of the metre of the above ext. Scan the three first verses.

4. Translate, Cicero, Cato Major :—

Quid, quod sapientissimus quisque *æquissimo animo* moritur, stultissimus iniquissimo? Nonne vobis videtur animus is, qui plus cernat et longius, videre se ad meliora proficisci: ille autem, cujus obtusior *sit* acies, non videre? Equidem efferor studio patres vestros, quos colui et dilexi, *videndi*: neque vero eos solum convenire aveo, quos ipse cognovi; sed illos etiam, de quibus audivi, et legi, et ipse conscripsi. Quo quidem me proficiscentem haud sane quis facile *retraxerit* neque tamquam Peliam recoxerit. Quod si quis deus mihi largiatur, ut ex hac ætate *repuerascam* et in cunis vagiam, valde *recusem*. Nec vero *velim*, quasi decurso spatio, ad carceres a calce revocari. Quid enim habet vita *commodi?* quid non potius laboris? Sed habeat sane; habet certe tamen aut satietatem aut modum. Non libet enim mihi deplorare vitam, quod multi, et ii docti, saepe fecerunt; neque me vixisse pœnitet, quoniam ita vixi, ut non frustra me natum existimem; et ex vita ita discedo, tamquam ex hospitio, non tamquam ex domo. Commorandi enim natura deversorium nobis, non habitandi locum dedit. O præclarum diem, quum ad illud divinum animorum concilium cœtumque proficiscar, quumque ex hac turba et colluvione discedam!

5. Construe the words in Italics in the above ext.

6. Give the derivation and meaning of:—Demens, deliratio, denique, domi, luna, manus, poculum, populus, senium, stadium.

1. Translate:—Horace, Odes I.:—

Vides, ut alta stet nive candidum
Soracte, nec iam sustineant onus
silvae laborantes, geluque
flumina constiterint acuto.

Dissolve frigus, ligna super foco
large reponens, atque benignius
deprome quadrimum Sabina,
o Thaliarche, merum diota.

Permitte divis cetera: qui simul
stravere ventos aequore fervido
deproeliantes, nec cupressi
nec veteres agitantur orni.

Quid sit futurum cras, fuge quaerere et
quem sors dierum cumque dabit, lucro
appone ; nec dulces amores
sperne puer, neque tu choreas:

donec virenti canities abest
morosa. Nunc et campus et areae,
lenesque sub noctem susurri
composita repetantur hora.

nunc et latentis proditor intimo
gratus puellae risus ab angulo,
pignusque dereptum lacertis,
aut digito male pertinaci.

8. (*a*) Explain the construction of:—(1) Nube candentes humeros amictus. (2) Ire dejectum monumenta regis. (*b*) What is the gender in Latin, for the most part, of names of winds, indeclinable nouns, mountains, trees and islands? (*c*) Mention any special features in either the gender or the inflexions of *dea, vis, domus, locus, dies, coelum*. (*d*) Compare *citra, senex, dubius, pius, ultra, magnopere*.

9. (*a*) Give the principal parts of *fleo, fallo, veto, urgeo, aro, gaudeo findo, pello*. (*b*) Give the 1st person singular. of the 1st Future, and of the Present and Imperfect Subjunctive, of *volo, possum, gaudeo, nolo*. (*c*) Give instances of *Inceptive, Frequentative* and *Semi Deponent* verbs.

10. (*a*) Give the Genitive and Gender of *Anio, Tempe, Apollo, ales, sidus, cupido*, severally. (*b*) In what case do you put *part of time, duration of time, the agent*, and *the instrument*, in Latin ?

FRENCH.

TUESDAY, JUNE 9TH :—MORNING, 9 TO 12.

Examiner,..... .....P. J. DAREY, M.A., B.C.L.

LA NOSTALGIE.

Translate into English :—

1. Si tu (*a*) veux (*b*) savoir ce que c'est que la *Nostalgie*, ce mal du pays dont souffrent et meurent (*c*) tant de pauvres exilés, je puis (*d*) te l'apprendre. L'âme s'ennuie en elle-même, ne prend plus d'intérêt à rien de ce qui l'entoure (*e*), se sent dans une prison, et pareille (*f*) à l'oiseau en cage, après avoir fait d'inutiles (*g*) efforts pour briser ses barreaux, se tapit dans un coin, l'œil (*h*) fixé sur cet espace qu'elle dévore, sur cet obstacle qu'elle maudit. Aucune séduction, aucun désir, aucun besoin ne (*i*) la détourne plus de sa contemplation amère. Bientôt le corps (*j*) subjugué par cette morne fureur, se fatigue, languit, s'épuise, et devient (*k*) lui-

même incapable de tout viril effort. On fait alors des rêves de mourant, des rêves pleins de désespoir, d'injustice et de douleur.

2. (*a*) When do you use the other form of *tu—toi?* Give three examples.

(*b*) Write in full the simple tenses of the *Indicative* and *Subjunctive* moods of *veux*.

(*c*) Write in full the compound tenses of the *Indicative* and *Subjunctive* moods of *meurent*.

(*d*) What is the other form of *puis?* Can those two forms be used indifferently in every case? Illustrate your answer by examples. Conjugate that tense interrogatively.

(*e*) Parse *l'*.

(*f*) Why is *pareille* feminine? According to what rule does it form its feminine?

(*g*) Why *d'* and not *des* before a plural? Give the rule.

(*h*) Give the two plurals of *œil*, and state when you use the one and when the other.

(*i*) Why is *ne* used?

(*j*) Account for that *s* in *corps* in the singular.

(*k*) Is *devient* regular or irregular? Illustrate your answer by three examples.

3. Write in the plural the first sentence of that extract, from *si* to *apprendre*.

4. When do you translate the English *Pluperfect* by the *Plus-que-parfai* and when by the *Passé Antérieur?* Give two examples.

5. State two cases when you would have to use the Imperfect of the Subjunctive mood. Give examples.

6. Write correctly the past participles in following sentences: Nous avons *cueilli* des pommes que nous avons *mangé* avec plaisir. L'année *s'est écoulé* rapidement. La maison que j'ai *fait* bâtir m'a beaucoup *coûté*. Le peu d'attention qu'il a *donné* à ses leçons l'a fait échouer dans ses examens. Give the rules.

7. Translate into French:—

A HANDFULL OF TRUTHS.

A prince one day lost his way in a forest in running after a stag. The principal part of his suite had lost him, and he had with him only his squire and his steward. After a thousand windings and turnings, the prince declared that he was tired and starving; they therefore discovered the cabin of a wood-cutter with a joy that the sight of the most sumptuous palaces had never caused. The squire and the steward entered the cabin, and were not long to come out again, the first one with a bench upon which the prince alighted from his horse and seated himself upon it very quickly, the second one with a table. What have you to give us to eat my good

man? said the prince to the wood-cutter? Almost nothing, said the wood-cutter. Then give it to us very quickly before our appetite should still increase—But that needs to be prepared. I have only raw potatoes. As to prepare no matter what, here is our steward who pretends to know all about it, speak of it with him.

GERMAN.

WEDNESDAY, JUNE 3RD :—AFTERNOON, 2 to 5.

Examiner,.....C. F. A. MARKGRAF, M.A

1. Translate into English :—

(A) Eines Morgens, als er von Neuem seines Bildes sich freuen wollte, fand er, daß sein Meister das ganze Gemälde ausgelöscht hatte. Zürnend und weinend rannte er zu ihm und fragte nach der Ursache des grausamen Verfahrens.

Der Meister antwortete: „Ich habe es mit weisem Bedacht gethan. Das Gemälde war gut; aber es war zugleich dein Verderben."

„Wie so?" fragte der junge Künstler.

„Lieber," antwortete der Meister, „du liebtest nicht mehr die Kunst in deinem Bilde, sondern nur dich selbst. Glaube mir, es war nicht vollendet wenn es auch uns so schien; es war nur eine Studie.—Da, nimm den Pinsel und siehe, was du von Neuem erschaffest! Laß dich das Opfer nicht gereuen, Das Große muß in dir sein, ehe du es auf die Leinwand zu bringen vermagst."

Muthig und voll Zutrauen zu sich und seinem Lehrer ergriff er den Pinsel und vollendete sein herrlichstes Werk: das Opfer der Iphigenie. Denn der Name des Künstlers war Timanthes.

Krummacher, Der Maler und sein Meister.

(B) „Wohl hab' ich es gesehen,
Das hohe Schloß am Meer,
Und den Mond darüber stehen
Und Nebel weit umher."

Der Wind und des Meeres Wallen,
Gaben sie frischen Klang?
Vernahmst du aus hohen Hallen
Saiten und Festgesang?

„Die Winde, die Wogen alle
Lagen in tiefer Ruh',
Einem Klagelied aus der Halle
Hört' ich mit Thränen zu."

Saheſt du oben gehen
Den König und ſein Gemahl,
Der rothen Mäntel Wehen,
Der goldnen Kronen Strahl?

Uhland, Das Schloß am Meere.

2. (See Ext. A & B) (a) State the cases in the following expressions:—von Neuem, zu ihm, nach der Urſache, mit weiſem Bedacht, uns, in dir, am Meere, aus hohen Hallen, der rothen Mäntel Wehen. (b) Give the four cases Sing. of: — ſeines Bildes; friſchen Klang; tiefer Ruh'. (c) Decline in both numbers: — der junge Künſtler; ſein herrlichſtes Werk; der goldnen Kronen.

3. Parse the following verbs, and give their Present Infinitives:—wollte, fand, ausgelöſcht hatte, zürnend, rannte, fragte, habe gethan, war, liebteſt, ſchien, nimm, ſiehe, erſchaffeſt, muß, vermagſt, ergriff, hab' geſehen, hört' zu (See Ext. A & B).

4. (a) Give six feminine nouns formed from masculines. (b) Convert the following nouns into diminutives: — Thier, Bank, Baum, Lamm, Kaſten, Kranz, Frau, Blume, Tochter, Land, Kopf, Haus, Volk, Thurm.

5. (a) Write down the three degrees of comparison in German of:—strong, hard, old, black, long, near, red, short, great. (b) How are adjectives formed from nouns of substance? State rule and give examples. (c) Can participles be used as adjectives?

6. Translate:—This man is his son, and that *one* is my brother. What *sort of* fruit is that? We have been here four times. Have you no time to stay? A year has 365 days or 52 weeks. This is the 3rd of June, 1885. (The figures to be expressed in letters).

7. Conjugate verkaufen and abreiſen, giving all persons of the Present and Imperfect, and the 3rd Sing. and 1st Plu. of the Perfect, Pluperfect, First and Second Futures, of the Indicative.

8. Translate into English:—

Gute Kinder ſind die Freude und der Stolz ihrer Eltern. Der Lehrer lobte die fleißige Arbeit des Schülers. Dein Neffe wünſcht dich heute Abend zu beſuchen, um dir eine wichtige Nachricht zu erzählen. Es war Niemand zu Hauſe; denn meine Geſchwiſter waren alle ausgegangen. Sie hatten ihre Hüte abgenommen und ihre Handſchuhe ausgezogen. Bitte, ſagen Sie dem Diener, mir die Briefe von der Poſt zu holen. Er hat ſie ſchon vor einer halben Stunde gebracht, und ich habe ſie in Ihr Zimmer auf den Schreibtiſch gelegt. Unſere Vettern wohnen ſeit drei Vierteljahren bei einem alten Freunde ihres Vaters. Wir ſind geſtern nach dem Dorfe geritten, um die neue Brücke zu ſehen, welche man über den Fluß gebaut hat. Die gute Dame hat ihrer kranken Nichte dieſen Vormittag ein hübſches Geſchenk gemacht. Erlauben Sie mir, Ihnen in dieſem Laden etwas Neues auszuſuchen.

GEOMETRY.

THURSDAY, JUNE 4TH :—MORNING, 9 TO 12.

Examiners, ... { REV. PRINCIPAL LOBLEY, D.C.L.
G. H. CHANDLER, M.A.

1. If two angles of a triangle be equal, the sides which subtend them shall also be equal.

2. If one side of a triangle be produced, the exterior angle shall be greater than either of the interior opposite angles.

3. If a straight line falling on two other straight lines make the alternate angles equal, the two straight lines shall be parallel.

4. The diagonals of a rhombus bisect each other at right angles.

5. If the square described on one side of a triangle be equal to the squares described on the other two sides, the angle contained by these two sides shall be a right angle.

6. If a straight line be bisected and produced to any point, the rectangle contained by the whole line thus produced, and the part of it produced, together with the square on half the line bisected, shall be equal to the square on the straight line which is made up of the half and the part produced.

7. Describe a square which shall be equal to a given rectilineal figure.

8. Give the definitions of a circle, a sector of a circle, a segment of a circle, and similar segments.

9. Equal straight lines in a circle are equally distant from the centre.

10. The opposite angles of a quadrilateral figure inscribed in a circle are together equal to two right angles.

11. From a given circle cut off a segment containing an angle equal to a given rectilineal angle.

12. Construct a triangle having given the base, vertical angle, and the perpendicular from the vertex on the base.

ALGEBRA.

WEDNESDAY, JUNE, 10TH:—MORNING, 9 TO 12.

Examiners, ... { Rev. Principal LOBLEY, D.C.L.
G. H. CHANDLER, M.A.

1. Write down the numerical value of

$$a\sqrt{b^2-3a}+b\sqrt{b^2+3a}$$

when $a = 8$ and $b = 5$.

2. Simplify $16 - a - [7b - \{8a - (9a - \overline{3a+6b})\}]$.

3. Divide $x^5 - x^4y - 3x^3y^2 - y^5$ by $x^2+2xy+y^2$.

4. Write down the product of

(*i*) x^2+2x-3 and x^2-2x+3,

(*ii*) x^3+2x^2-2x+1 and x^3-2x^2+2x+1.

5. Find the greatest common measure of

$x^3 - 29xy^2 + 42y^3$ and $x^3 + x^2y - 35xy^2 + 49y^3$.

6. Find the least common multiple of

x^2-4, x^3-8, x^3+8, x^2-5x+6, and x^2-x-6.

7. Add together

$$\frac{1}{x-y},\quad \frac{x+y}{x^2+xy+y^2},\quad \frac{xy}{x^3-y^3},\quad \frac{xy}{x^3+y^3}.$$

8. Divide $\dfrac{a^2-7a+12}{a^2+11a+28}$ by $\dfrac{\left(1-\frac{4}{a}\right)^2}{a\left(1+\frac{4}{a}\right)\left(1+\frac{7}{a}\right)}$.

9. Extract the square root of

$4x^4+8x^3+4x^2+16ax^2+16ax+16a^2$.

10. Solve the equations

(*i*) $\dfrac{x+3}{2}+\dfrac{x+4}{3}+\dfrac{x+5}{4}=16$.

(*ii*) $\dfrac{3x-1}{2x-1}-\dfrac{4x-2}{3x-2}=\dfrac{1}{6}$.

TRIGONOMETRY.

WEDNESDAY, JUNE 10TH:—AFTERNOON, 2 TO 5.

Examiners, ... { REV. PRINCIPAL LOBLEY, D.C.L.
G. H. CHANDLER, M.A.

1. Explain the different modes of measuring angles and the nature of the units employed.

2. Express $28° 16' 25''$ in French measure, and $32^g 1' 8''$ in English measure.

3. Define the sine, cosine and tangent of an angle; and shew that $\sec^2 A = 1 + \tan^2 A$.

4. Find the sine, cosine and tangent of 60°.

5. Prove that $\sin (A + B) = \sin A \cos B + \cos. A \sin B$.
Hence find expressions for $\sin 2A$ and $\sin 3A$ in terms of $\sin A$ and $\cos A$.

6. Find the value of tan 75°.

7. What is meant by the complement of an angle? Write down the complement and supplement of 130°, and of -20^g.

8. Show that the cosine of an angle is equal to the cosine of its supplement with its sign changed.

9. Write down the values of sin 300°, cos 390°, tan 780°, sec 315°, cosec 120°, cot (—45°).

10. In a triangle right-angled at C, $AB = 15$ ft. $BAC = 30$. Find AC, BC, and the area of the triangle.

GEOMETRICAL AND FREEHAND DRAWING.

MONDAY, JUNE 8TH, 1885:—AFTERNOON, 2 TO 5.

Examiner, ... C. H. MCLEOD, MA.E.

1. Construct a regular octagon of 1 in. side.

2. Two straight lines meet at an angle of 45°. Find a point so that the perpendiculars from it to the lines shall be in the ratio 1 : 3, (*a*) when the point is in the acute angle, (*b*) when it is in the obtuse angle.

3. Construct a triangle whose perimeter is 8 in., its sides being in the proportion 2 : 3 : 4.

4. If a fine thread were gradually unwound from a curve, the unwound part being kept constantly stretched, the extremity of the thread would describe a line called an *involute* of the curve. Describe a portion of the involute of a circle of 2 in. diameter.

5. Make a freehand drawing (without a model) of three cubes each having one side parallel to the picture plane and below the horizon line. The cubes are situated to the right, to the left, and immediately in front of the eye.

6. Make a freehand drawing of the objects before you ;—

(*a*) A square pyramid standing on a pedestal of one step.

(*b*) A cylinder resting on its side.

NOTE.—No mechanical measurements will be allowed in problems 6 (*a*) and (*b*). In the geometrical problems, construction lines are to be dotted and all results are to be obtained by direct construction, not by trial. A protractor must not be used to measure the angles.

ENGLISH LANGUAGE.

TUESDAY, JUNE 9TH :—AFTERNOON, 2 TO 5.

Examiners, ... CHAS. E. MOYSE, B.A.; REV. PROF. SCARTH, M.A.; REV. PROF. READ, M.A.; R. W. BOODLE, B.A.

1. Who used the Accadian language? Why is it important and to what type of languages does it belong?

2. (*a*) What do you know concerning the history of the English noun-plurals in *en* and their decay? Explain the plural form of *child*.

(*b*) What does Latin *c* become in French and in Italian and before what letters? Shew by examples how the French treat Latin words beginning with *sp*, *st*, *sc*.

3. Make notes on the italicized parts of the following words: sound, bridegroom, nightingale, songstress ; also on the prefixes *fore* and *for* ; the *to* of *to give*, and the words Buttermere and Bridgwater.

4. What light does the "common Indo-European language" throw on the civilisation of the people who used it? Group the leading European languages of the Indo-European family, and explain what is meant by a synthetic and an analytic language.

5. In what two ways are new words formed? Shew that these two ways "are not so different in their nature after all."

6. What does the word *case* mean? Indicate the uses of the ablative case.

7. What diphthongs are used in English? What is a false diphthong? In which of these words do true diphthongs occur: renown, gauge, jeopardy, rough, boy, sieve? Show why the others are false.

8. Write the second person singular of each tense of the Indicative mood of *go*.

9. Decline the personal and the demonstrative pronouns and tell what you know of the history of any of their forms.

10. Classify Adverbs, with examples. Point out the ways in which Adverbs are formed from nouns, pronouns and adjectives.

11. After what classes of verbs is the Infinitive mood used without *to*? Indicate the grammatical uses of the Infinitive.

12. Analyse:

(*a*) To Rome the alphabet came from Cumæ, where it first appears nearly in its present form.

(*b*) I linger yet with Nature, for the night
Hath been to me a more familiar face
Than that of man; and in her starry shade
Of dim and solitary loveliness
I learn'd the language of another world.

13. What are the views of Trench concerning the origin of language?

14. (*a*) Mention six words which have degenerated in meaning and show how.

(*b*) Show that words "may embody and give permanence to an error." (*c*) How does Trench use the following words almanack, hurricane, rhubarb, shire, county, crypt?

15. Distinguish between *genuine* and *authentic*; *hate*, *loathe*, *detest*, *abhor*. What is meant by homonyms? Illustrate.

ENGLISH LITERATURE.

S. A. BROOKE: *Primer of English Literature;* SHAKESPEARE: *Julius Cæsar;* SCOTT: *Lady of the Lake.*

SATURDAY, JUNE 6TH:—MORNING, 9 TO 12.

Examiners, ... { CHAS. E. MOYSE, B.A. / REV. PROF. SCARTH, M.A. / REV. PROF. READ, M.A. / R. W. BOODLE, B.A.

1. Mention four of the chief English writers between 1066 and 1400, with the names of their principal works.

2. Who wrote The Seasons, The Pleasures of Hope, The Task, Christabel, The Gentle Shepherd, Every Man in his Humour, The Virgin Martyr, St. Peter's Complaint?

3. Give a short account of (i) Jonathan Swift, (ii) Shelley, mentioning their chief characteristics.

4. Describe the effects of the Hanoverian Succession on the Literature of England.

5. Into how many Acts is Julius Cæsar divided? Name the conspirators against Cæsar. What was the cause of the conspiracy? By what means was Brutus induced to join it?

6. Describe the murder of Cæsar. By whom was it defended? By whom was the ovation over the body pronounced? What was the effect? Can you quote some sentences from either of the speeches?

7. Explain:—

"These many, then shall die; their names are prick'd";

"Thou shalt see me at Philippi." Where is Philippi?

(b) "His life was gentle: and the elements
So mix'd in him that Nature might stand up
And say to all the world "This was a man!'" Of whom is this said?

8. In what part of Scotland is the scene of the Lady of the Lake laid? Give a short outline of the story and say who each of the principal persons in the poem is.

9. Explain the allusions in the following extracts,

(i) I little thought, when first thy rein
I slack'd upon the banks of Seine,

(ii) Ye towers! within whose circuit dread
A Douglas by his sovereign bled;

(iii) And while the Fiery Cross glanced, like a meteor, round.

(iv) The Taghairm called; by which, afar,
Our sires foresaw the events of war.

10. Explain these words: beltane, Ben-Shie, coronach, erne, eyry, gyve, snood, whinyard, russet, mavis, rowan.

HISTORY.

(*Primes of Greece* and *Rome*, and *Collier's Great Events*.)

FRIDAY, JUNE 5TH:—AFTERNOON, 2 TO 5.

Examiners,..... ..... { CHAS. E. MOYSE, B.A. / REV. PROF. SCARTH, M.A. / REV. PROF. READ, M.A. / R. W. BOODLE, B.A.

1. Mention *five* men who have won the title of "The Great." In what century did they live, to what nation did they belong, and for what reason were they called *great*?

2. Explain shortly the following terms: Auto da Fé, Caliph, Censor, the Fronde, Girondist, Greek Tyrant, Helot, Iconoclast, Ostracism, Social War, Tiers état, Tribune.

3. Show distinctly and shortly the policy of the following men: Charles V., Hannibal, Hildebrand, Philip of Macedon, Richelieu, Rienzi, Solon, Sulla. In what century did each live?

4. When, where, and with what great results were the following battles fought: Beneventum, Jena, Leuctra, Marathon, Mortgarten, Pharsalia, Pultowa, Tours?

5. Describe shortly and show the importance of: Agrarian Law of Spurius Cassius, Councils of Clermont and Nicæa, Diet of Spires, Defeat of Varus, Peaces of Antalkidas, Nikias and Westphalia.

6. Give a clear account *either* of Xerxes' expedition against Greece *or* the Athenian expedition against Syracuse.

7. Give the main outlines of the career of *either* Caius Marius, *or* Octavianus Cæsar.

8. Indicate the main stages in the education of a gentleman during the Age of Chivalry.

9. Give a brief but clear outline of the great siege of Constantinople, (1453).

10. For what are the following places famous in history: Avignon, Canossa, Chalons, Leipsig, Mecca, Nantes, Ravenna, Wittenberg?

GEOGRAPHY.

FRIDAY, JUNE 5TH :—MORNING, 9 TO 12.

Examiners..... { CHAS E. MOYSE, B.A. / REV. PROF. SCARTH, M.A. / REV. PROF. READ, M.A. / R. W. BOODLE, B.A.

1. Describe the course of the rivers Orinoco, Amoor, Tigris, Indus, Shannon.

2. Write short notes on :—Peipus, Cotopaxi, Strasburg, Rangoon, Birmingham, New Orleans, Berber, Tangier, Lena, Ballarat, Allahabad, Toronto.

3. Whence do we procure tin, platinum, indigo, aloes, salt ?

4. What is meant by, moraine, exotic, bore, fen, tundra, selva, planetoid, snow-blink, nullah, debâcle, ooze ?

5. Account for the difference in density between fresh and salt water.

6 What regulates the distribution of plants on the earth's surface ?

7. Can any proofs be given of the density of our atmosphere ?

8. Give an accurate but very concise account of the physical features of Africa, British Columbia, Australia.

9. Where, and under what government, are these groups of islands ?—Azores, Kurile, Society, Galapagos, Andaman.

10. What are the foreign possessions of France and Germany respectively ?

11. What is the importance of Commercial Geography ?

12. Which are the principal *currents* on the earth's surface ? What are their effects ?

BOTANY.

THURSDAY, JUNE 11TH :—11 TO 12 A.M.

Examiner,..... PROF. D. P. PENHALLOW, B.Sc.

1. Describe the parts of an embryo plant, and state what relation they bears to the mature plant.

2. State what provision is made for the nourishment of the young plant in germination. Examples.

3. Describe the pollen, show where it is produced and what function it is to perform.

4. Describe the pistil and its essential parts.

5. Define the following terms as applied to leaves:
Linear, Cordate, Ovate, Oblong, Serrate, Dentate.

6. Explain the difference between deciduous and evergreen trees. Examples.

7. When are plants said to be herbaceous, shrubby, arboreous? Examples.

8. What are buds, and where are they formed?

9. What are the stomata of plants, and where are they found?

10. * Describe the plant given, and give its proper name.

---

* The examiner will please supply the students with any common flower.

ELEMENTARY CHEMISTRY.

THURSDAY, JUNE 4TH:—MORNING, 9 TO 12.

Examiners,..... { B. J. HARRINGTON, PH.D.
D. P. PENHALLOW, B.SC.

1. How may Ozone be obtained? Give a test for its detection.

2. What is the law of gaseous diffusion? How may it be illustrated experimentally?

3. Give a sketch of apparatus suitable for the preparation of pure water by distillation.

4. What do you understand by the measurement of gases under standard conditions?

5. How is Carbonic Anhydride prepared? Describe its properties fully, and state how you would prove experimentally that it contains Carbon.

6. What are the properties of Iodine? How is it detected in Iodides?

7. What changes take place (*a*) when Sal-Ammoniac and Quicklime are treated together, and (*b*) when Ammonic Nitrate is heated? Give equations.

8. Give a formula for each of the following substances:—Potassic Chlorate, Cupric Nitrate, Caustic Potash, Phosphuretted Hydrogen, Olefiant Gas.

9. Explain the terms Element, Synthesis, Oxide, Water of Crystallization, Mother Liquor.

10. How is Sulphuretted Hydrogen prepared, and what are its properties?

McGill University Library
3 103 858 512 Z